U.S. Department of Transportation
Federal Aviation Administration

A Plan for the Future

10-Year Strategy for the Air Traffic Control Workforce
2011 – 2020

This is FAA's sixth annual update to the controller workforce plan. The FAA issued the first comprehensive controller workforce plan in December 2004. This 2011 report incorporates changes in air traffic forecasts, controller retirements and other factors into the plan. In addition, it provides staffing ranges for all of the FAA's air traffic control facilities and actual onboard controllers as of September 25, 2010.

This report is required by Section 221 of Public Law 108-176 (updated by Public Law 111-117) requiring the FAA Administrator to transmit a report to the Senate Committee on Commerce, Science and Transportation and the House of Representatives Committee on Transportation and Infrastructure that describes the overall air traffic controller staffing plan, including strategies to address anticipated retirement and replacement of air traffic controllers.

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Executive Summary

Safety is the top priority of the Federal Aviation Administration (FAA) as it manages America's National Airspace System (NAS). Thanks to the expertise of people and the support of technology, tens of thousands of aircraft are guided safely and expeditiously every day through the NAS to their destinations.

Workload
An important part of managing the NAS involves actively aligning controller resources with demand. The FAA "staffs to traffic," matching the number of air traffic controllers at its facilities with traffic volume and workload. The FAA's staffing needs are dynamic due to the dynamic nature of the workload and traffic volume.

Traffic
Air traffic demand has declined significantly since 2000, the peak year for traffic. For the purposes of this plan, air traffic includes aircraft that are controlled, separated and managed by air traffic controllers. This includes commercial passenger and cargo aircraft as well as general aviation and military aircraft. In the past decade, volume has declined by 22 percent and is not expected to return to 2000 levels in the near term.

Headcount
System-wide controller headcount is slightly higher than in 2000. We continue to hire in advance of need to allow sufficient training time for our new hires to replace retiring controllers. On a per-operation basis, the FAA has more fully certified controllers on board today than in 2000.

Retirements
Fiscal year 2010 retirements were below projections, and lower than FY 2009. In addition, current year retirements are trending close to plan. The FAA carefully tracks actual retirements and projects future losses to make sure its recruitment and training keep pace.

Hiring
In the last five years, the FAA has hired more than 7,800 new air traffic controllers. The Department of Transportation's Inspector General stated that the FAA has "done what I can only say is a remarkable job in hiring replacements for controllers who have decided to leave."

Training
As the FAA continues to bring these new employees on board, we must carefully manage the process to ensure that our trainees are hired in the places we need them and progress in a timely manner to become certified professional controllers (CPC). The FAA will also continue to take action at the facility level should adjustments become necessary due to changes in traffic volume, retirements or other attrition.

As the agency brings thousands of new air traffic controllers on board, the training of these new employees continues to be closely monitored at all facilities.

The trainee percentage of the FAA's national controller workforce has averaged 26 percent over the last 40 years, but has ranged from 15 to 50 percent. With the large number of new hires since 2005, the national average peaked in 2009 at 27 percent, and is expected to continue to decline in subsequent years. This figure may be higher at some individual facilities; the FAA reviews this information along with other indicators so we can manage training and daily operations at each facility.

While the agency is focused on a small subset of facilities with particular staffing needs, the FAA reached critical milestones in FY 2010.

- Achieved for the first time the number of new certified professional controllers exceeding the agency's CPC attrition rate. We have produced more than 4,100 new CPCs over the past three years.

- Completed redesign of the initial training course for En Route and Oceanic Services.

- Expanded use of the high-fidelity Tower Simulation System (TSS) to optimize training at the FAA Academy and at field facilities, including annual refresher training to improve controller proficiency in seldom-used procedures and runway incursion prevention.

- Installed SimFast radar simulators in terminal facilities. SimFast is a low-cost, PC-based technology that provides controllers the opportunity to train on simulated traffic, increasing skill levels for situations that cannot be created with live traffic.

Ongoing hiring and training initiatives, as well as increased simulator use, are helping the FAA meet its goals. While the FAA is managing today's air traffic, we must also integrate new technologies into air traffic operations. From state-of-the-art simulators to satellite technology, air traffic is evolving into a more automated system. The FAA is working diligently to ensure well-trained controllers continue to uphold the highest safety standards as we plan for the future.

The FAA's goal is to ensure that the agency has the flexibility to match the number of controllers at each facility with traffic volume and workload. Staffing to traffic is just one of the ways we manage America's National Airspace System.

1 Introduction

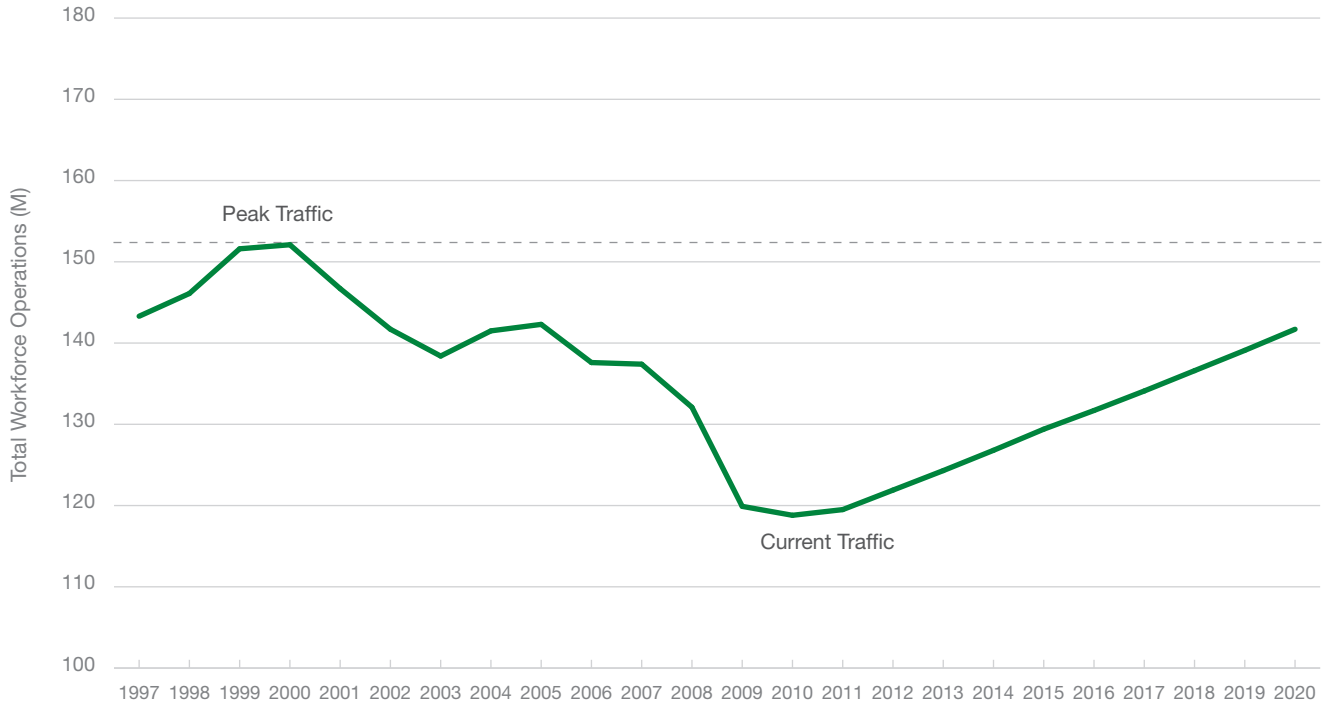
Staffing to Traffic

Air traffic controller workload and traffic volume are dynamic, and so are staffing needs. A primary factor affecting controller workload is the demand created by air traffic, encompassing both commercial and non-commercial activity. Commercial activity includes air carrier and commuter/air taxi traffic. Non-commercial activity includes general aviation and military traffic.

Adequate numbers of controllers must be available to cover the peaks in traffic caused by weather and daily, weekly or seasonal variations, so the FAA continues to "staff to traffic." This practice gives us the flexibility to match the number of controllers at each facility with traffic volume and workload. This also means that we staff to satisfy expected needs two to three years in advance, in order to ensure sufficient training time for new hires.

System-wide, air traffic has declined by 22 percent since 2000. Figure 1.1 shows that air traffic volume is not expected to return to peak levels in the near term.

Figure 1.1 Traffic Forecast



Total Workforce Operations = Tower + TRACON + Aircraft Handled by En Route Centers

Despite the decline in air traffic, “staffing to traffic” also requires us to anticipate controller attrition, so that we plan and hire new controllers in advance of need. This advance-hire trainee wave is one reason that staffing remains well ahead of traffic.

The chart below shows system-wide controller staffing and traffic, indexed from 2000 and projected through 2020. Due to the training wave, the current total headcount exceeds the level in 2000.

Figure 1.2 System-wide Traffic and Total Controller Trends

Meeting the Challenge

The FAA has demonstrated over the past several years that it can handle the long-predicted wave of expected controller retirements. The FAA's current hiring plan has been designed to phase in new hires as needed over time. This will avoid creating another major spike in retirement eligibility in future years like the current one resulting from the 1981 controller strike.

In 2005, the agency began hiring more controllers than the number who retired each year to make sure enough trained controllers were on board when the retirement wave began to swell. We have passed the crest, but we are still hiring significant numbers of new controllers to stay ahead of the retirements.

Controllers hired since 2005 are completing training and are replacing retirees as certified professional controllers (CPCs). Similarly, controllers hired in the 1990s and early 2000s may move from mid-level facilities into the higher-paying, higher-workload facilities. The transition through the ranks will continue to provide increased career growth opportunities for the workforce.

Hiring, however, is just one part of the challenge. Another part is ensuring newly hired controllers are effectively placed in the facilities where we will need them. Optimizing controller schedules is also an important aspect of this challenge as inefficient facility schedules can lead to excess staffing or increased overtime.

To address this need, FAA is procuring a commercially available "off-the-shelf" resource management tool (RMT). Similar systems are being used by air navigation service providers worldwide. This RMT will provide a common toolset for FAA facilities to effectively develop and maintain optimal schedules based on traffic, staffing, work rules and qualifications.

Effective and efficient training, properly placing new and transferring controllers, as well as efficient assignment of controllers to facility schedules to meet demand are all important factors in the agency's success.

Systematically replacing air traffic controllers where we need them, as well as ensuring the knowledge transfer required to maintain a safe NAS, is the focus of this plan.

2 Facilities and Services

America's NAS is a network of people, procedures and equipment. Pilots, controllers, technicians, engineers, inspectors and supervisors work together to make sure millions of passengers move through the airspace safely every day.

More than 15,000 federal air traffic controllers in airport traffic control towers, terminal radar approach control facilities and air route traffic control centers guide pilots through the system. An additional 1,289 civilian contract controllers and more than 9,500 military controllers also provide air traffic services for the NAS.

These controllers provide air navigation services to aircraft in domestic airspace, including 24.6 million square miles of international oceanic airspace delegated to the United States by the International Civil Aviation Organization.

Terminal and En Route Air Traffic Services

Controller teams in airport towers and radar approach control facilities watch over all planes traveling through the "terminal" airspace. Their main responsibility is to organize the flow of aircraft into and out of an airport. Relying on visual observation and radar, they closely monitor each plane to ensure a safe distance between all aircraft and to guide pilots during takeoff and landing. In addition, controllers keep pilots informed about changes in weather conditions.

Once airborne, the plane quickly departs the terminal airspace surrounding the airport. At this point, controllers in the radar approach control notify "en route" controllers who take charge in the vast airspace between airports. There are 21 air route traffic control centers around the country. Each en route center is assigned a block of airspace containing many defined routes. Airplanes fly along these designated routes to reach their destination.

En route controllers use surveillance methods to maintain a safe distance between aircraft. En route controllers also provide weather advisory and traffic information to aircraft under their control. As an aircraft nears its destination, en route controllers transition it to the terminal environment, where terminal controllers guide it to a safe landing.

FAA Air Traffic Control Facilities

As of October 1, 2010, the FAA operated 315 air traffic control facilities and the Air Traffic Control System Command Center in the United States. Table 2.1 lists the type and number of these FAA facilities. More than one type of facility may be collocated in the same building.

Each type of FAA facility has several classification levels based on numerous factors, including traffic volume, complexity and sustainability of traffic. To account for changes in traffic and the effect of investments that reduce complexity, as well as to compensate controllers that work the highest and most complex volume of traffic, facilities are monitored for downward and upward trends.

Table 2.1 Types and Number of FAA Air Traffic Control Facilities

Type	Name	Number of Facilities	Description
1	Tower without Radar	1	An airport traffic control terminal that provides service using direct observation primarily to aircraft operating under visual flight rules (VFR). This terminal is located at airports where the principal user category is low-performance aircraft.
2	Terminal Radar Approach Control (TRACON)	23	An air traffic control terminal that provides radar-control service to aircraft arriving or departing the primary airport and adjacent airports, and to aircraft transiting the terminal's airspace.
3	Combination Radar Approach Control and Tower with Radar	132	An air traffic control terminal that provides radar-control service to aircraft arriving or departing the primary airport and adjacent airports, and to aircraft transiting the terminal's airspace. This terminal is divided into two functional areas: radar approach control positions and tower positions. These two areas are located within the same facility, or in close proximity to one another, and controllers rotate between both areas.
4	Combination Non-Radar Approach Control and Tower without Radar	2	An air traffic control terminal that provides air traffic control services for the airport at which the tower is located and without the use of radar, approach and departure control services to aircraft operating under Instrument Flight Rules (IFR) to and from one or more adjacent airports
6	Combined Control Facility	4	An air traffic control facility that provides approach control services for one or more airports as well as en route air traffic control (center control) for a large area of airspace. Some may provide tower services along with approach control and en route services.
7	Tower with Radar	128	An airport traffic control terminal that provides traffic advisories, spacing, sequencing and separation services to VFR and IFR aircraft operating in the vicinity of the airport, using a combination of radar and direct observations.
8	Air Route Traffic Control Center (ARTCC)	21	An air traffic control facility that provides air traffic control service to aircraft operating on IFR flight plans within controlled airspace and principally during the en route phase of flight. When equipment capabilities and controller workload permit, certain advisory/ assistance services may be provided to VFR aircraft.
9	Combined TRACON Facility	4	An air traffic control terminal that provides radar approach control services for two or more large hub airports, as well as other satellite airports, where no single airport accounts for more than 60 percent of the total Combined TRACON facility's air traffic count. This terminal requires such a large number of radar control positions that it precludes the rotation of controllers through all positions.
-	Air Traffic Control System Command Center	1	The Air Traffic Control System Command Center is responsible for the strategic aspects of the NAS. The Command Center modifies traffic flow and rates when congestion, weather, equipment outages, runway closures or other operational conditions affect the NAS.

3 Staffing Requirements

The FAA issued the first comprehensive controller workforce plan in December 2004. “A Plan for the Future: A 10-Year Strategy for the Controller Workforce” detailed the resources needed to keep the controller workforce sufficiently staffed. This report is updated each year to reflect changes in traffic forecasts, retirements and other factors.

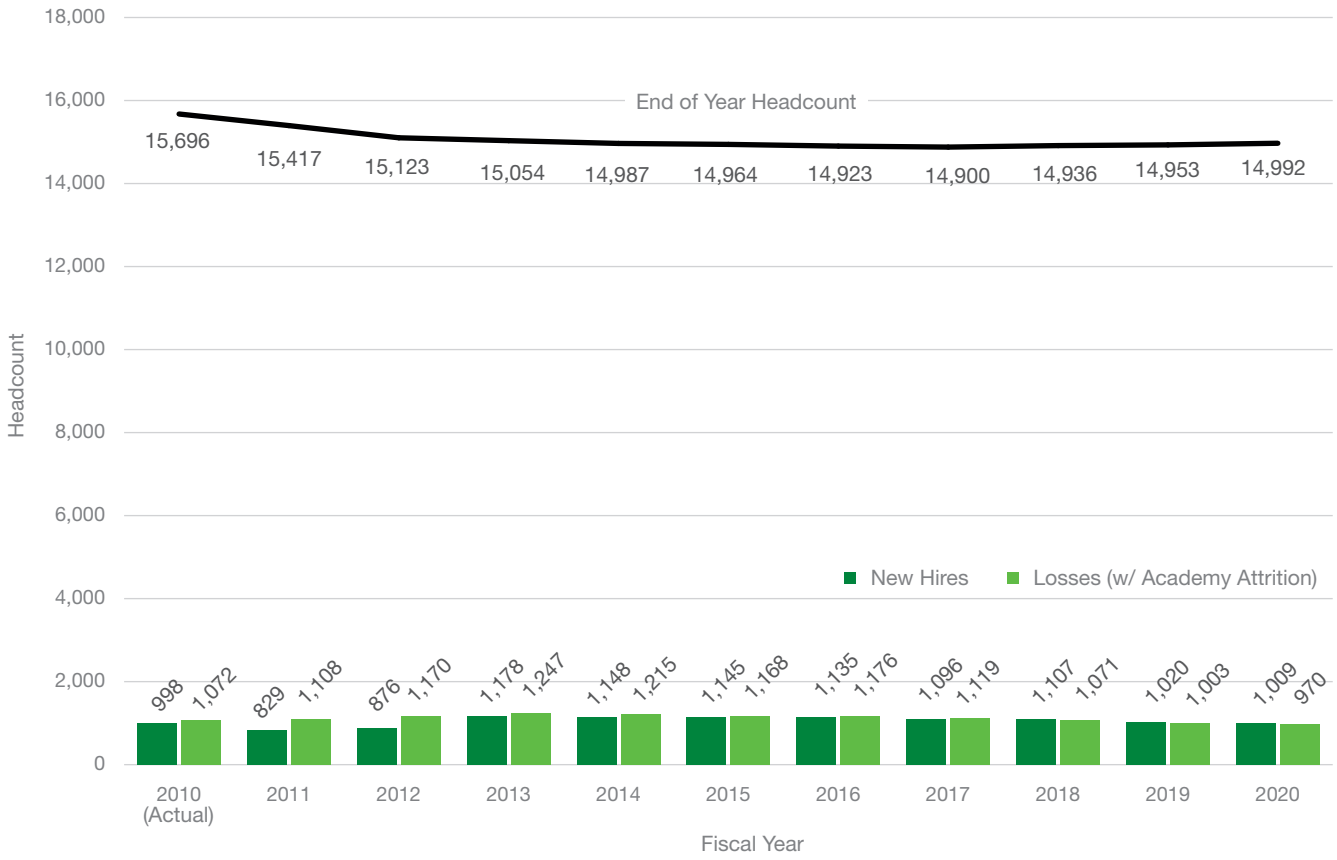
“Staffing to traffic” requires the FAA to consider many facility-specific factors. They include traffic volumes based on FAA forecasts and hours of operation, as well as individualized forecasts of controller retirements and other attrition losses. In addition, staffing at each location can be affected by unique facility requirements such as temporary airport runway construction, seasonal activity and the number of controllers currently in training. Staffing numbers will vary as the requirements of the location dictate.

Proper staffing levels also depend on the efficient scheduling of employees, so the FAA tracks a number of indicators as the agency reviews staffing levels. Some of these indicators are overtime, time on position, leave usage and the number of trainees. For example, in FY 2010, the system average for overtime was 2.1 percent, a slight decrease from the FY 2009 level.

Figure 3.1 shows the expected end-of-year headcount, losses and new hires by year through FY 2020. Figures for FY 2010 represent actual end-of-year headcount, losses and hires.

There is a slight drop in the FY 2011 end-of-year headcount from last year's plan as thousands of trainees hired over recent years became certified controllers and attrition among senior controllers declined. Both of these factors are reducing our advanced hiring needs as the trainee wave recedes.

Figure 3.1 Projected Controller Workforce



Note: Annual hires and losses are a relatively small proportion of the total controller workforce.

TIME ON POSITION

OVERTIME

TRAFFIC

RETIREMENTS

STAFFING RANGES

TRAINEES

FIELD INPUT

SIMULATORS AND INSTRUCTORS

PRODUCTIVE TIME

The FAA uses many metrics to manage its facilities.

Staffing Ranges

Because traffic and other factors are dynamic at individual facilities, the FAA produces facility-level controller staffing ranges. These ranges ensure that there are enough controllers to cover operating positions every day of the year.

The process for establishing controller ranges by facility involves the use of several data sources. In developing these ranges, the FAA considers past facility performance, the performance of other similar facilities, productivity improvements, staffing standards and recommendations from the National Academy of Sciences, along with input from managers in the field, overtime trends, time-on-position data and expected retirements and other losses. Each facility is reviewed to evaluate headcount, operational activity and productivity trends. Productivity trends are then compared with facility-specific history as well as appropriate peer facilities. These peers are determined by the facility type and level.

The FAA uses four data sources to calculate staffing ranges. Three are data driven, the other based on field judgment. They are:

1. Staffing standards – mathematical models used to relate controller workload and air traffic activity.

2. Past productivity – the headcount required to match the historical best productivity for the facility. Productivity is defined as operations per controller. Facility productivity is calculated using operations and controller data from the years 1999 to 2010. If any annual point falls outside +/- 5 percent of the 1999 to 2010 average, it is thrown out. From the remaining data points, the highest productivity year is then used.

3. Service unit input – including field manager input.

4. Peer productivity – the headcount required to match peer group productivity. Like facilities are grouped by type and level and their corresponding productivity is calculated. If the facility being considered is consistently above or below the peer group, the peer group figure is not used in the overall average and analysis.

The average of this data is calculated, rounded to the nearest whole number, multiplied by +/- 10 percent and then rounded again to determine the high and low points in the staffing range.

Exceptional situations, or outliers, are removed from the averages (for example, if a change in the type or level of a facility occurred over the period of evaluation). By analyzing the remaining data points, staffing ranges are generated for each facility.

The agency's hiring and staffing plans consider all of these inputs as well as other considerations such as time on position and overtime. All of these data points are reviewed collectively and adjustments are made to facility staffing plans during the year as necessary.

In this report we present staffing ranges for each of the FAA's 315 air traffic control facilities. The ranges include all controllers at the facility, including certified professional controllers (CPCs) and trainees. Trainees are defined as the number of developmental controllers and certified professional controllers in training (CPC-IT).

Most facilities will be in a period of transition over the next few years and will be staffing with a combination of CPCs, CPC-ITs and a large number of position-qualified developmental controllers who are proficient, or checked out, in specific sectors or positions. Developmentals have always handled live traffic and, in fact, this is a requirement to maintain proficiency as they progress toward CPC status.

In many facilities, the current Actual on Board (AOB) number is higher than the range maximum. This is because many facilities' current AOB (—all controllers at the facility) numbers include larger numbers of developmentals in training to offset expected future attrition.

In the longer term, the number of new hires and total controllers will decline as the current wave of developmentals become CPCs, and the long expected retirement wave has passed. At that point, the vast majority of the controllers will be CPCs and CPC-ITs, and more and more facilities will routinely fall within the ranges.

The staffing ranges for 2011 are published in the Appendix of this report.

Figure 3.2 Controller Staffing Range

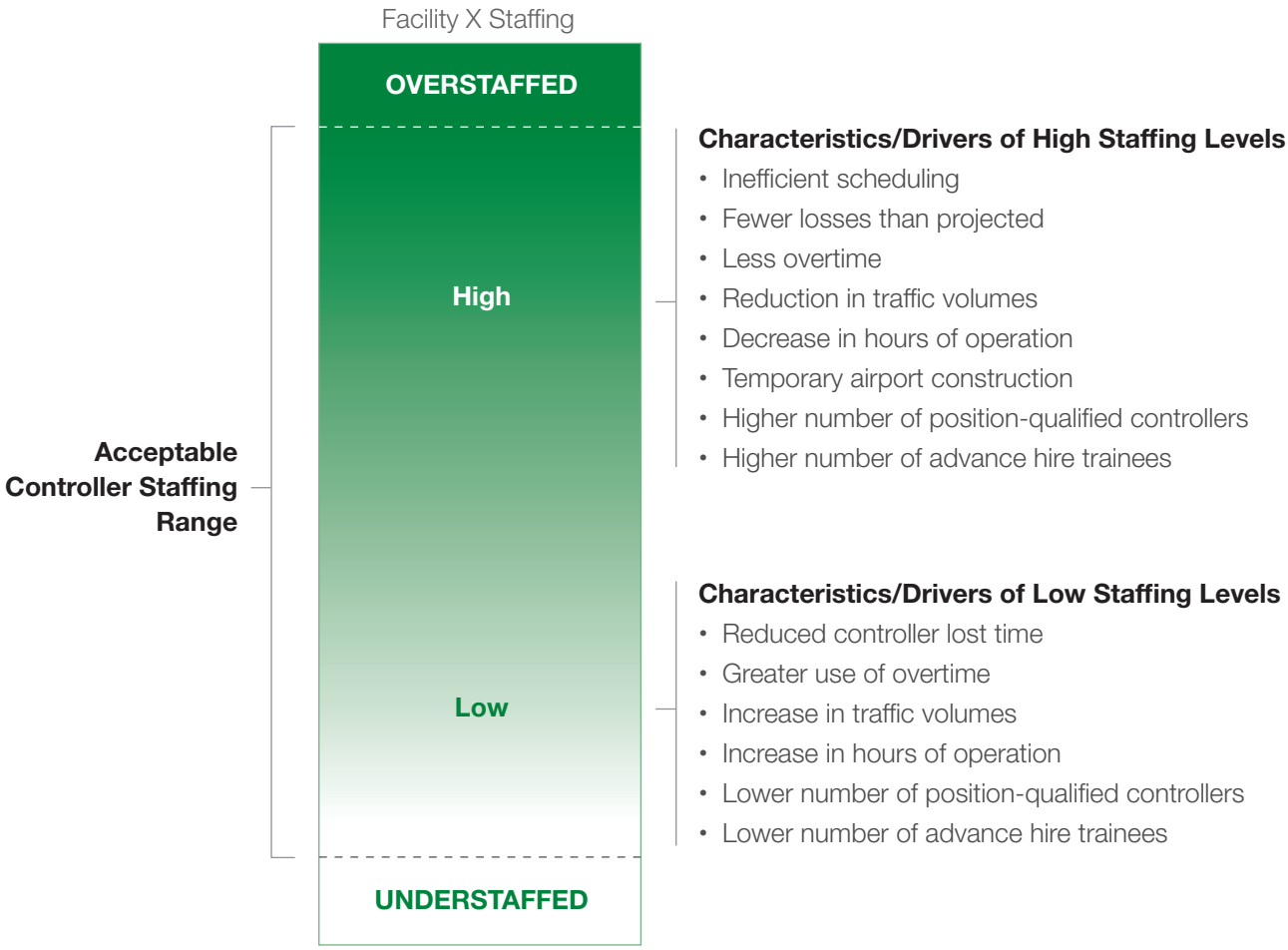


Figure 3.3 depicts an example of a large, Type 3 FAA facility. This Combination Radar Approach Control and Tower with Radar facility is one in which controllers work in the tower cab portion and in the radar room (also known as a TRACON). To be a CPC in these types of facilities, controllers must be checked out on all positions in both the tower and the TRACON.

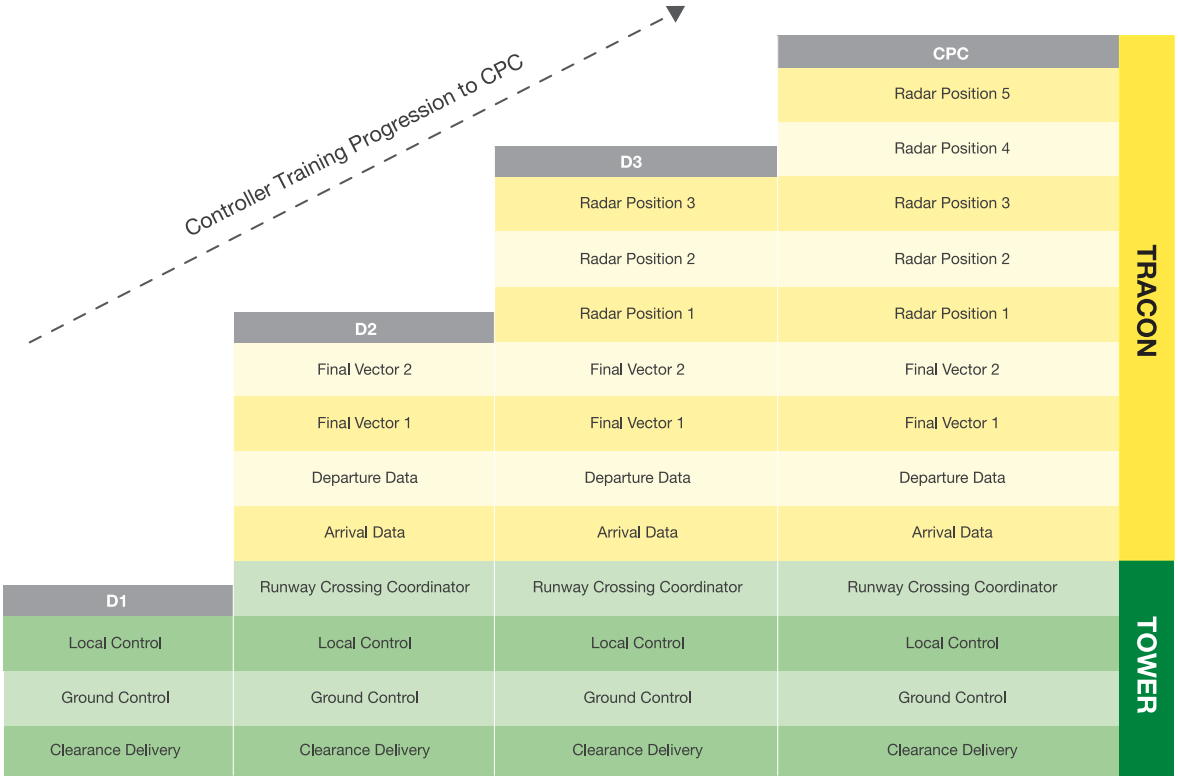
Trainees are awarded “D1” status (and the corresponding increase in pay) after being checked out on several positions. The levels of responsibility (and pay) gradually increase as trainees progress through training.

Once controllers are checked out at the D1 level, they can work several positions in the tower (Clearance Delivery, Ground Control and Local Control). Once checked out on the Runway Crossing Coordinator position, the controller would be considered tower certified, but still not a CPC, as CPCs in this type of facility must also be certified on positions in the radar room.

The levels of responsibility continue to increase as one progresses toward CPC status, but trainees can and do control traffic much earlier in the training process. Historically, the FAA has used these position-qualified controllers to staff operations and free up CPCs for more complex positions as well as to conduct training.

Having the majority of the workforce checked out as CPCs makes the job of scheduling much easier at the facility. CPCs can cover all positions in their assigned area, while position-qualified developmentals require the manager to track who is qualified to work which positions independently. This task will be easier once the FAA’s resource management tool is fully implemented.

Figure 3.3 Controller Training Progression



Trainees are defined as the number of developmental and certified professional controllers in training (CPC-IT)

Air Traffic Staffing Standards Overview

The FAA has used air traffic staffing standards to help determine controller staffing levels since the 1970s.

FAA facilities are currently identified and managed as either "terminal" facilities where airport traffic control services are provided, including the immediate airspace around an airport, or "en route" facilities where high altitude separation services are provided using computer systems and surveillance technologies. Terminal facilities are further designated as tower cabs or TRACONs. These terminal facilities may be collocated in the same building, but because of differences in workload, their staffing requirements are modeled separately.

Figure 3.4 Air Traffic Control Position and Facility Overview

The dynamic nature of air traffic controller workload coupled with traffic volume and facility staffing needs are all taken into account during the development of FAA staffing standards / models.

All FAA staffing models incorporate similar elements:

- Controller activity data is collected and processed commensurate with the type of work being performed in the facilities.
- Models are developed that relate controller workload to air traffic activity. These requirements are entered into a scheduling algorithm.
- The modeled workload/traffic activity relationship is forecast for the 90th percentile (or 37th busiest) day for future years for each facility. Staffing based on the demands for the 90th percentile day assures that there are adequate numbers of controllers to meet traffic demands throughout the year.
- Allowances are applied for off-position activities such as vacation, training, etc.

In 2005, the FAA began an air traffic staffing standard review and assessment with the expectation of developing staffing ranges at the facility level. In 2007, the FAA revised the standards models for towers and en route centers and, in 2009, completed revised standards models for TRACON facilities.

The FAA incorporated recommendations found in the Transportation Research Board special report “Air Traffic Control Facilities, Improving Methods to Determine Staffing Requirements.” These recommendations included significantly expanding the amount of input data and improving the techniques used to develop the standards.

The staffing standards models were updated in the last few years. The standards produced by the models are updated each year to account for changes in traffic and other factors.

All staffing models went through similar development processes. Some components of the model-development phase varied as a function of the work being performed by the controllers. For example, a crew-based approach was used to model tower staffing requirements because the number and type of positions in a tower cab vary considerably as traffic changes, compared to those of a single sector in a TRACON or en route center. All staffing models reflect the dynamic nature of staffing and traffic. Controller staffing requirements can vary throughout the day and throughout the year.

Tower Cab Overview

Air traffic controllers working in tower cabs manage traffic within a radius of a few miles of the airport. They instruct pilots during taxiing, takeoff and landing, and they grant clearance for aircraft to fly. Tower controllers ensure that aircraft maintain minimum separation distances between landing and departing aircraft, transfer control of aircraft to TRACON controllers when the aircraft leave their airspace, and receive control of aircraft for flights coming into their airspace.

- There are a variety of positions in the tower cab, such as Local Control, Ground Control, Flight Data, Coordinator, etc. Depending on the airport layout and/or size of the tower cabs (some airports have more than one tower), there can be more than one of the same types of position on duty.

- As traffic, workload and complexity increase, more or different positions are opened; as traffic, workload and complexity decrease, positions are closed or combined with other positions.

Important factors that surfaced during the tower staffing model development included the availability, accessibility and increased reliability of traffic data and controller on-position reporting systems. The FAA was able to analyze much larger quantities of tower data at a level of granularity that was previously unattainable. Staffing data and traffic volumes were collected for every facility.

The revised tower cab standards were developed using regression analysis as the primary method for modeling the relationship between staffing and workload drivers. Models were developed that related observed, on-position controllers to the type and amount of traffic they handled. Regression analysis allowed us to relate modeled controller staffing requirements with traffic activity and then use this relationship to predict future staffing requirements (standards) based on traffic projections.

TRACON Overview

Air traffic controllers working in TRACONs typically manage traffic within a 40-mile radius of the primary airport; however, this radius varies by facility. They instruct departing and arriving flights, and they grant clearance for aircraft to fly through the TRACON's airspace. TRACON controllers ensure that aircraft maintain minimum separation distances between landing and departing aircraft, transfer control of aircraft to tower or en route center controllers when the aircraft leave their airspace, and receive control of aircraft for flights coming into their airspace.

- TRACON airspace is divided into sectors that often provide services to multiple airports. Consolidated or large TRACONs in major metropolitan areas provide service to several primary airports. Their airspace is divided into areas of specialization, each of which contains groups of sectors.

- Controllers are assigned to various positions like Radar, Final Vector, Departure Data, etc., to work traffic within each sector. These positions may be combined or de-combined based on changes in air traffic operations.

- As traffic, workload and complexity increase, the sectors may be subdivided (de-combined) and additional positions opened, or the sector sizes can be maintained with an additional controller assigned to an assistant position within the same sector.

- Similarly, when traffic, workload and complexity decline, the additional positions can be closed or the sectors recombined.

Like the tower analysis, the FAA was able to analyze much larger quantities of TRACON data at a level of granularity that was previously unattainable. Important factors surfaced during the TRACON staffing model review including the availability, accessibility and increased reliability of traffic data and controller on-position reporting systems. Staffing data and traffic volumes were collected for every facility.

The TRACON standards models were updated in early 2009. The revised TRACON standards were developed using regression analysis as the primary method for modeling the relationship between staffing and workload drivers. Models were developed that related observed, on-position controllers to the type and amount of traffic they handled. Regression allowed us to relate modeled controller staffing requirements with traffic activity and then use this relationship to predict future staffing requirements (standards) based on traffic projections.

En Route Overview

Air traffic controllers assigned to en route centers guide airplanes flying outside of terminal airspace. They also provide approach control services to small airports around the country where no terminal service is provided. As aircraft fly across the country, pilots talk to controllers in successive en route centers.

- En route center airspace is divided into smaller, more manageable blocks of airspace called areas and sectors.

- Areas are distinct, and rarely change based on changes in traffic. Within those areas, sectors may be combined or de-combined based on changes in air traffic operations.

- Controllers are assigned to positions within the sectors (e.g., Radar, Radar Associate, Tracker). As traffic increases, sectors can be de-combined and additional positions opened, or the sector sizes can be maintained but additional controllers added to assistant positions within the sectors.

- Similarly, when traffic declines, the additional positions can be closed or the sectors recombined.

The FAA's Federally Funded Research and Development Center, operated by the MITRE Corporation, developed a model to generate data needed for the FAA's staffing models. Like the tower and TRACON standards models, this approach incorporated actual traffic and more facility-specific data.

MITRE's modeling approach reflects the dynamic nature of the traffic characteristics in a sector. It estimates the number of controllers, in teams of one to three people, necessary to work the traffic for that sector in 15-minute intervals. Differences in traffic characteristics in a sector could require different numbers of controllers to handle the same volume of traffic. For example, at one time most traffic might be cruising through a sector toward another location requiring minimal controller intervention. At another time, traffic might be climbing and descending through the same sector, a more complex scenario requiring more controllers. The same modeling techniques were applied uniformly to all sectors, providing results based on a common methodology across the country.

The FAA's staffing models incorporate the input data provided by MITRE, run it through a shift scheduling algorithm, apply traffic growth forecasts, and then apply factors to cover vacation time, break time, training, etc., to provide the staffing ranges presented in this plan for each en route center.

In September 2010 the National Academy of Sciences completed a review at the FAA's request of MITRE's workload modeling capabilities. The review "concludes that the model is superior to past models because it takes into account traffic complexity when estimating task load. It recommends obtaining more operational and experimental data on task performance, however, to establish and validate many key model assumptions, relationships and parameters."

Technological Advances

The FAA is laying the foundation for the Next Generation Air Transportation System (NextGen) with new satellite-based technologies. When possible, NextGen capabilities are being integrated into existing systems to improve operations today. To learn more about NextGen and its component programs, see our Web site at www.faa.gov/nextgen.

At the request of both Congress and industry, the FAA is moving aggressively to field early components of NextGen and maximize immediate benefits for air traffic controllers, pilots, aircraft operators and, most importantly, the flying public. We are rapidly transitioning from ground-based navigation to an operation that makes greater use of satellites. One such effort, Automatic Dependent Surveillance-Broadcast (ADS-B), has been deployed in southern Florida and in areas of the Gulf of Mexico where there is no radar coverage.

Other programs such as System Wide Information Management (SWIM) and Collaborative Air Traffic Management (CATM) have achieved major acquisition milestones. NextGen Network Enabled Weather (NNEW) aims to integrate weather data into automated decision support tools. This is a necessary step in realizing improved management of weather in the NAS.

This evolutionary approach provides for a smooth transition for pilots and controllers. This approach also allows for improvements throughout the NextGen investment period.

The FAA expects that new technologies will result in a more automated system that will, over time, change the role of controllers. The phase-in of these new technologies and the phaseout of older technologies is a long-term gradual process currently under development. The FAA is still determining how the changes in technology will affect the controller workload, and so the 2011 controller workforce plan does not factor in these changes in determining staffing requirements in the out-years.

For staffing purposes, the FAA will continue to adjust staffing as described in this plan to meet the expected changes in air traffic activity.

4 Losses

In total, the FAA expects to lose over 1,100 controllers due to retirements, promotions and other losses this fiscal year. Other controller losses include resignations, removals, deaths, developmental attrition and academy attrition.

Fiscal year 2010 attrition came in at 1,072 losses, 4 percent below the 2010 plan of 1,121 losses. We have incorporated this updated attrition into our forecasts.

Controller Loss Summary

In addition to retirements, the agency loses controllers to resignations, removals, deaths, developmental attrition, promotions, transfers and academy attrition.

Table 4.1 shows the total estimated number of controllers that will be lost, by category, over the period FY 2011 through FY 2020.

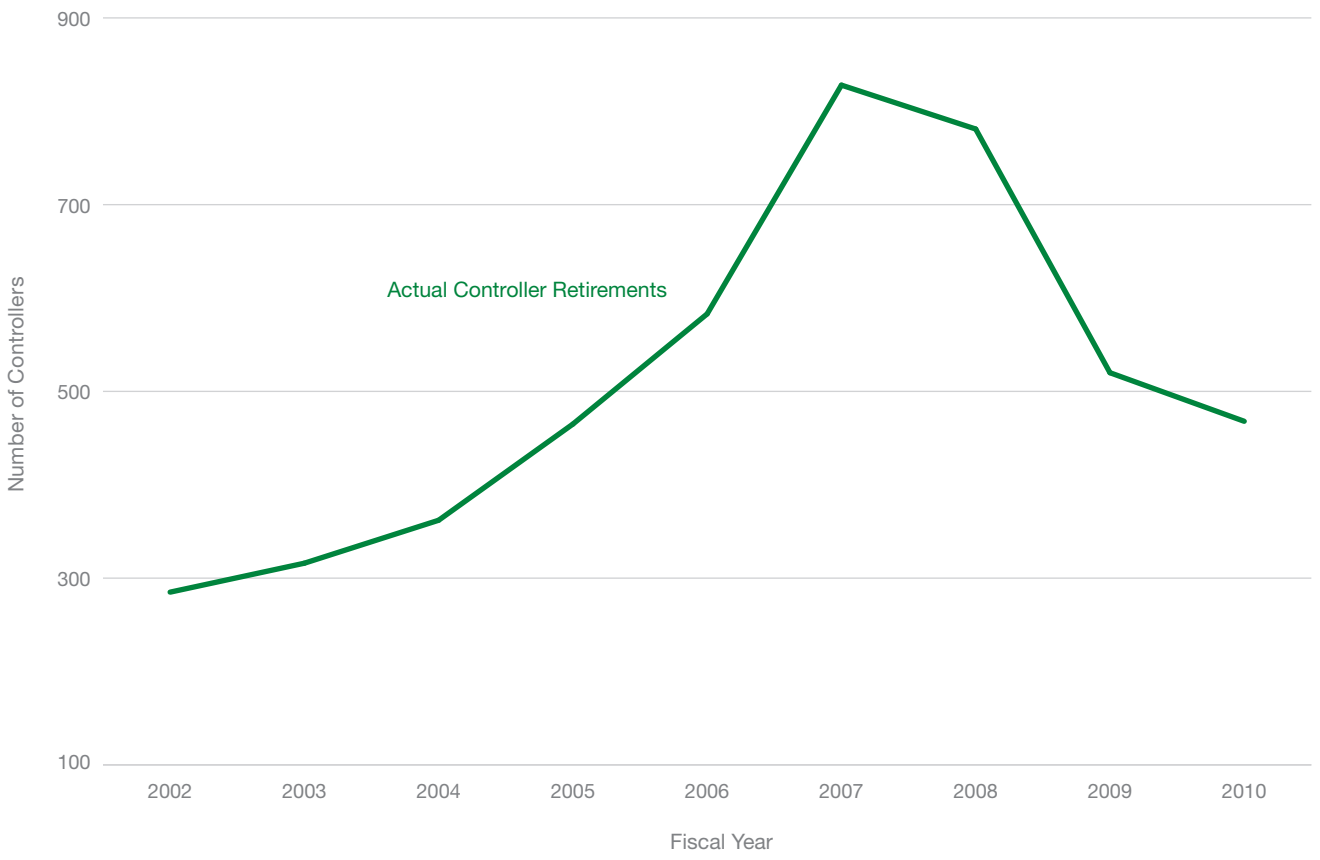
Table 4.1 Controller Loss Summary

Loss Category	Losses: 2011-2020
Retirements	5,038
Resignations, Removals and Deaths	486
Developmental Attrition	1,380
Promotions/Transfers	3,641
Academy Attrition	702
Total	**11,247**

Actual Controller Retirements

Fiscal year 2007 was correctly projected to be a peak year for retirements of controllers hired in the early 1980s.

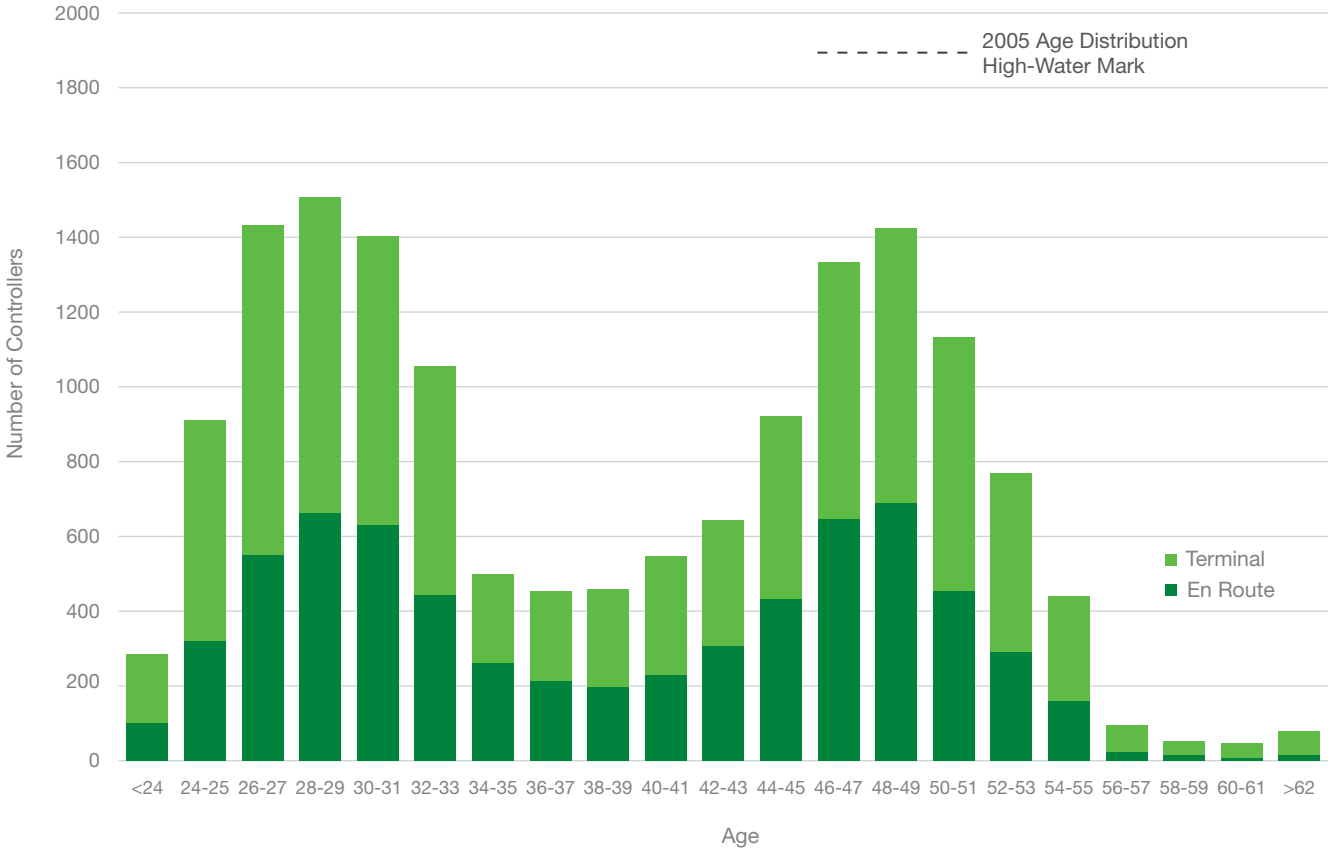
Figure 4.1 Actual Controller Retirements



Controller Workforce Age Distribution

The agency hired a substantial number of controllers in the years immediately following the 1981 strike. This concentrated hiring wave created the situation whereby a large portion of the controller workforce would reach retirement age in roughly the same time period. In September 2005, the age distribution peak on the right side of Figure 4.2 was greater than 1,900 controllers. Today, the magnitude of that remaining peak is down to about 1,400 controllers.

Figure 4.2 Controller Workforce Age Distribution as of September 25, 2010



Today's hiring plans are designed to gradually phase in new hires as needed. This will also spread out the retirement eligibility of the current wave of new hires and reduce the magnitude of the retirement eligibility peak in future years.

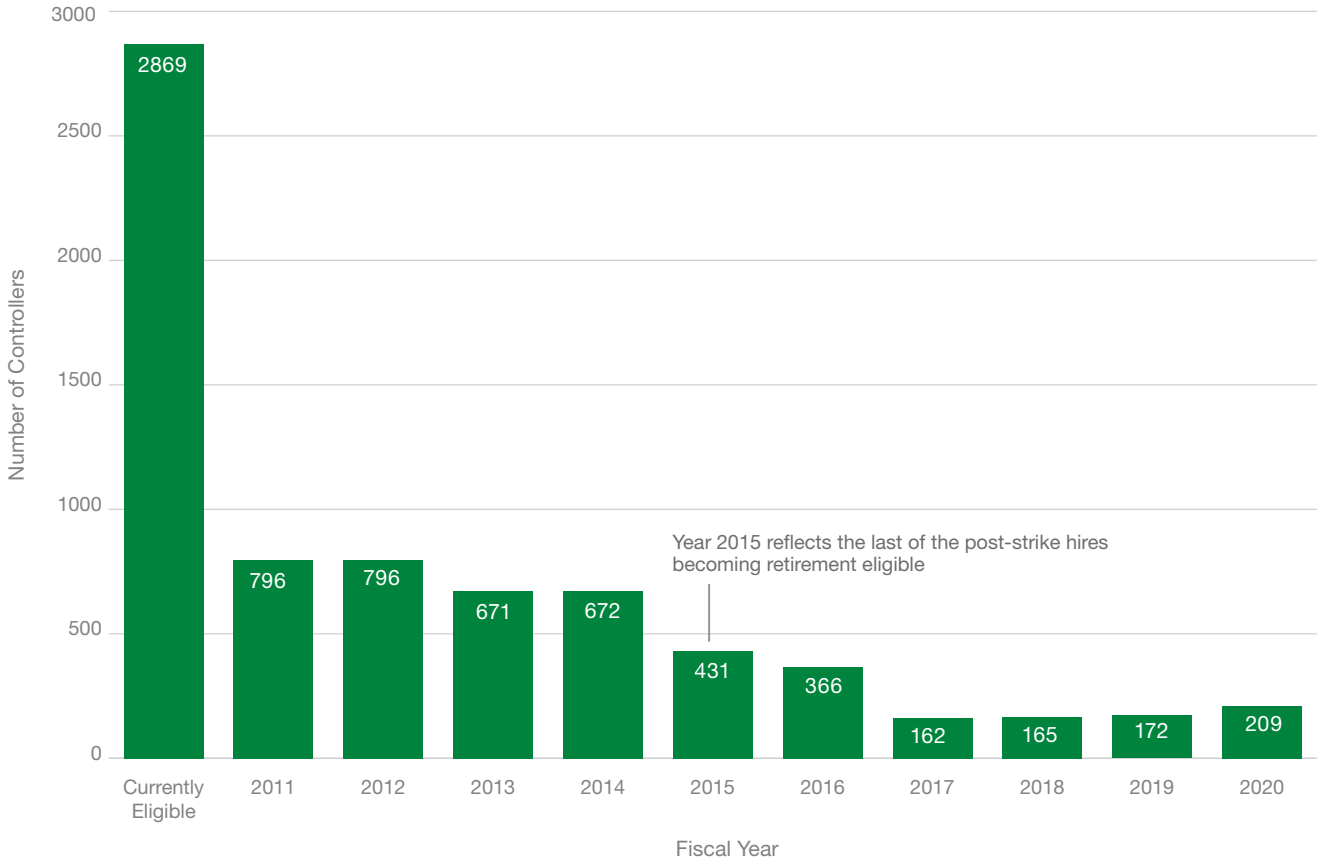
Controller Retirement Eligibility

In addition to normal civil service retirement criteria, controllers can become eligible under special retirement criteria for air traffic controllers (age 50 with 20 years of "good time" service or any age with 25 years "good time" service). "Good time" is defined as service in a covered position, as defined in Public Law 92-297. Under Public Law 92-297, air traffic controllers are usually required to retire at age 56.

After computing eligibility dates using all criteria, the FAA assigns the earliest of the dates as the eligibility date. Eligibility dates are then aggregated into classes based on the fiscal year in which eligibility occurs.

Figure 4.3 shows the number of controllers who are currently retirement eligible as of September 2010 and those projected to become retirement eligible by class year through FY 2020. Agency projections show that an additional 796 controllers will become eligible to retire in FY 2011.

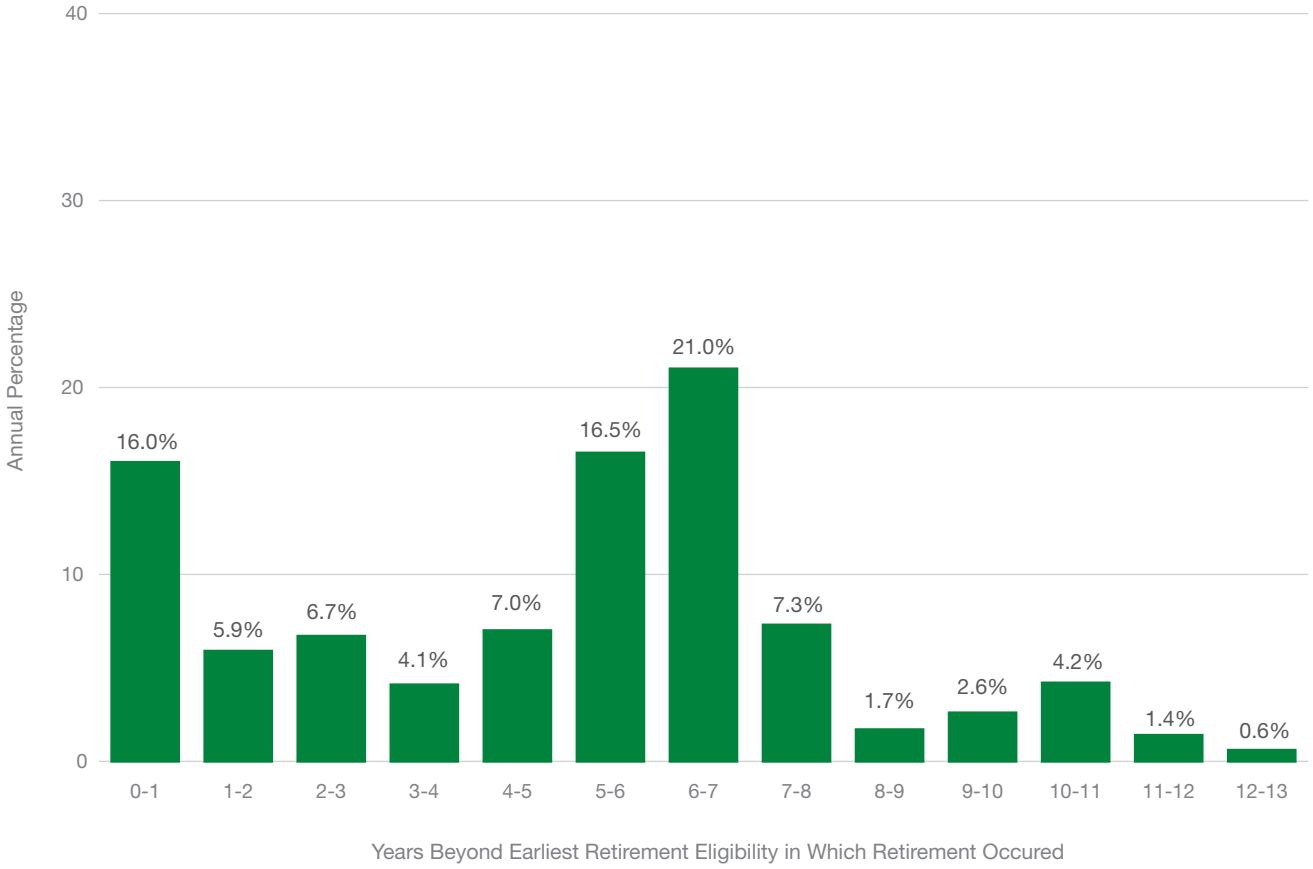
Figure 4.3 Retirement Eligibility



Controller Retirement Pattern

History shows that not all controllers retire when they first become eligible. In 2010, only 16 percent of controllers retired the first year they were eligible, which is lower than in previous years. We used last year's actual retirement pattern to generate future controller retirement estimates. Figure 4.4 shows this pattern.

Figure 4.4 Percent of Controllers Retiring in their Nth Year of Eligibility



Controller Losses Due to Retirements

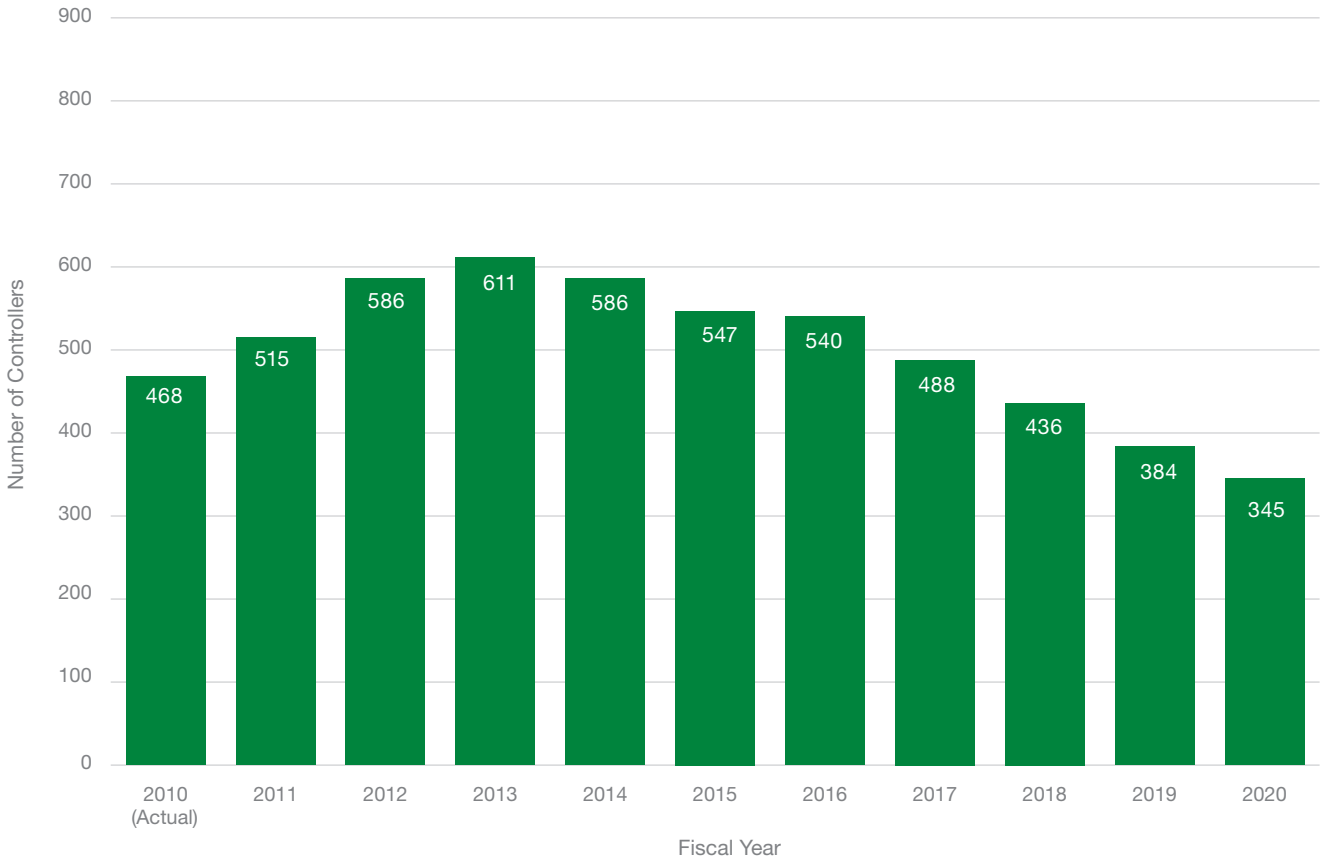
For the current plan, the agency incorporated the most recent year of retirement data into the retirement histogram used for FAA projections.

As in prior years, the FAA projected future retirements by analyzing both the eligibility criteria of the workforce (Figure 4.3) and the pattern of retirement based on eligibility (Figure 4.4).

For each eligibility class (the year the controller first becomes eligible to retire), the agency applied the histogram percentage to estimate the retirements for each class by year.

In FY 2010, there were 468 controller retirements, versus a plan of 489. Year-to-date retirements for 2011 are trending below 2010.

Figure 4.5 Retirement Projection



Controller Losses Due to Resignations, Removals and Deaths

Estimated controller losses due to resignations, removals (excluding developmental attrition) and deaths are shown in Table 4.6.

Table 4.6 Controller Losses Due to Resignations, Removals and Deaths

2010*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
43	44	50	47	48	48	48	50	50	50	51

Developmental Attrition

Estimated losses of trainees who terminate from the FAA while still in developmental status are shown in Table 4.7. The large number of new hires since FY 2005 represents an opportunity to study developmental attrition rates more closely, and the agency has incorporated this information into the latest FAA forecasts.

Table 4.7 Developmental Attrition

2010*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
192	156	112	132	142	143	145	142	141	136	131

Academy Attrition

Estimated loss figures from new hires who are not successful in the FAA Academy training program, before they ever reach an air traffic control facility, are shown in Table 4.8.

Table 4.8 Academy Attrition

2010*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
74	56	58	79	76	76	75	73	74	68	67

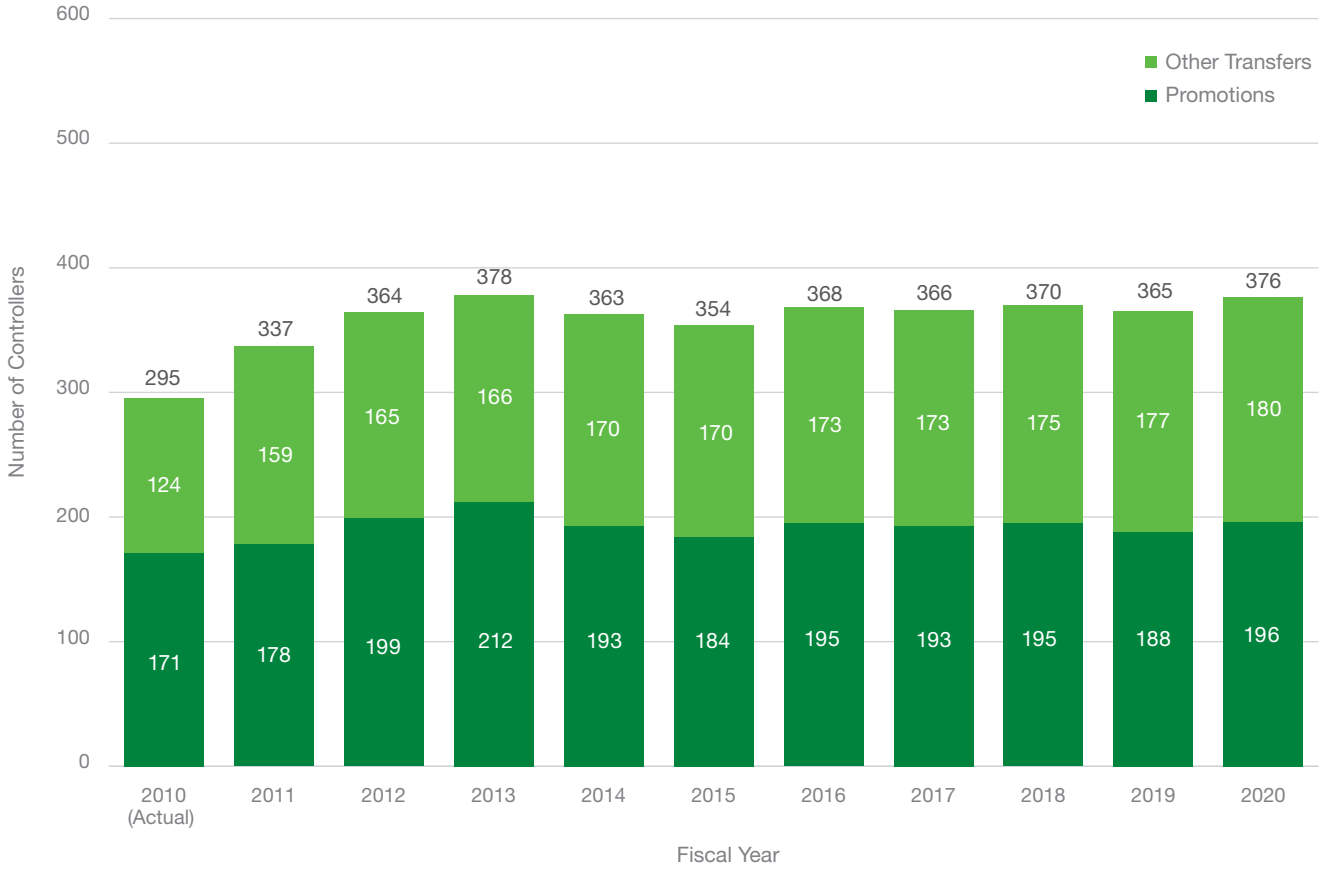
*Actual

Controller Losses Due to Promotions and Other Transfers

This section presents FAA estimates of controller losses due to internal transfers to other positions (staff support specialists, traffic management coordinators, etc.) and controller losses due to promotions to operational supervisor.

In addition to backfilling for supervisory attrition (retirements, promotions, etc.), the FAA expects that the supervisor workforce will likely grow along with the controller workforce, and these additional supervisors will also come from the controller population.

Figure 4.9 Controller Losses Due to Promotions and Other Transfers

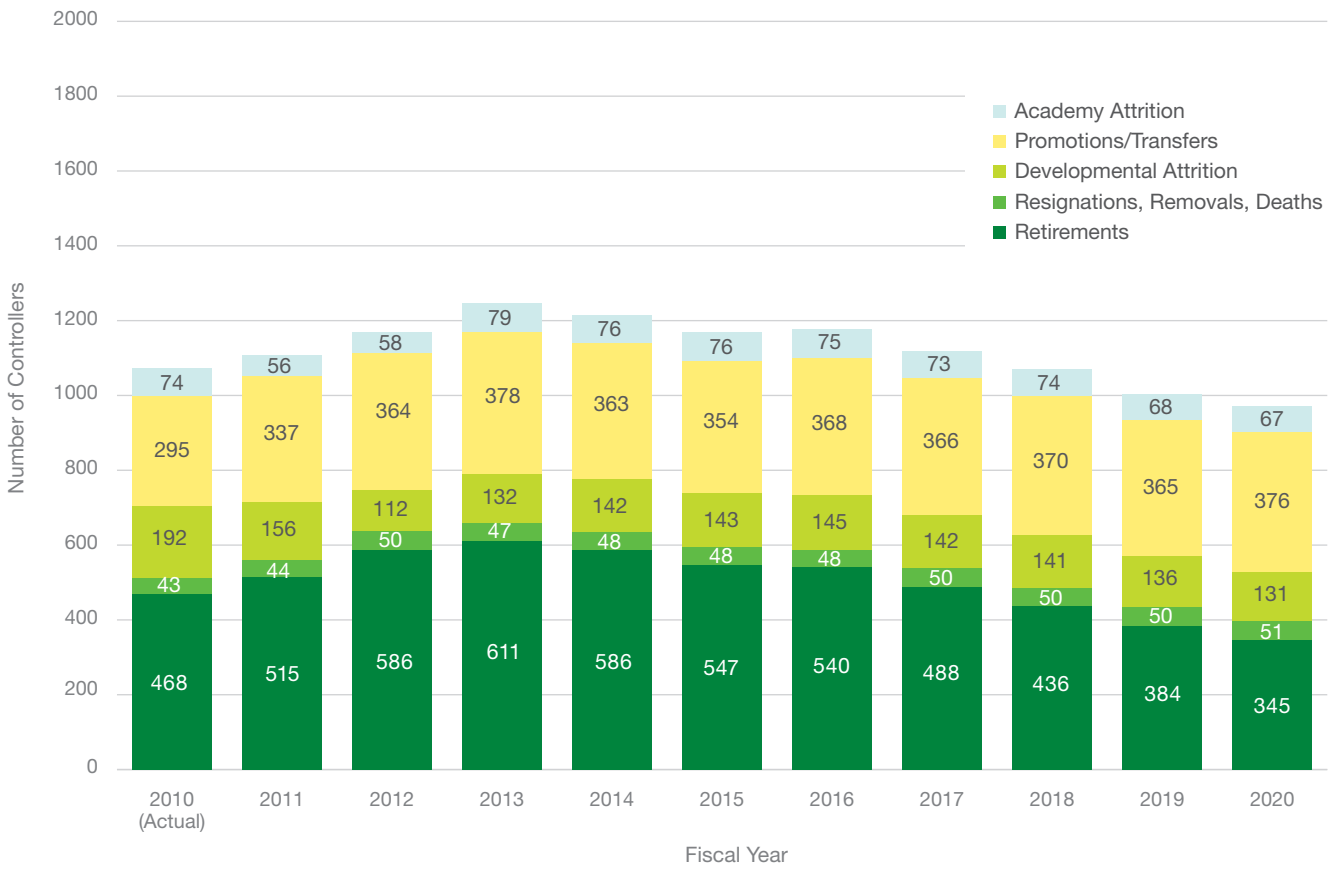


Total Controller Losses

The FAA projects a total loss of 11,247 controllers over the next 10 years.

Should losses outpace projections for FY 2011, the FAA will hire additional controllers to reach the end-of-year goal of 15,417 air traffic controllers on board. However, based on FY 2011 data to date, overall losses appear to be trending slightly below these projections.

Figure 4.10 Projected Total Controller Losses



5 Hiring Plan

The FAA safely operates and maintains the NAS because of the combined expertise of its people, the support of technology and the application of standardized procedures. Every day tens of thousands of aircraft are guided safely and expeditiously through the NAS to their destinations.

Deploying a well-trained and well-staffed air traffic control workforce plays an essential role in fulfilling this responsibility. The FAA's current hiring plan has been designed to phase in new hires as needed. To staff the right number of people in the right places at the right time, the FAA develops annual hiring plans that are responsive to changes in traffic and in the controller workforce.

FAA hires new developmentals in advance of the agency's staffing needs in order to have ample time to train them to offset future attrition, including retirements, promotions, etc. Proper execution of the hiring plan, while flexibly adapting to the dynamic nature of traffic and attrition, is critical to the plan's success. If the new developmentals are not placed correctly or if CPCs are not transferred from other facilities, shortages could occur at individual facilities that may affect schedules, overtime levels, or the requirement to increase the use of developmentals on position.

Staffing is and will continue to be monitored at all facilities. The agency will continue to take action at the facility level should adjustments become necessary due to changes in traffic volume, retirements or other attrition.

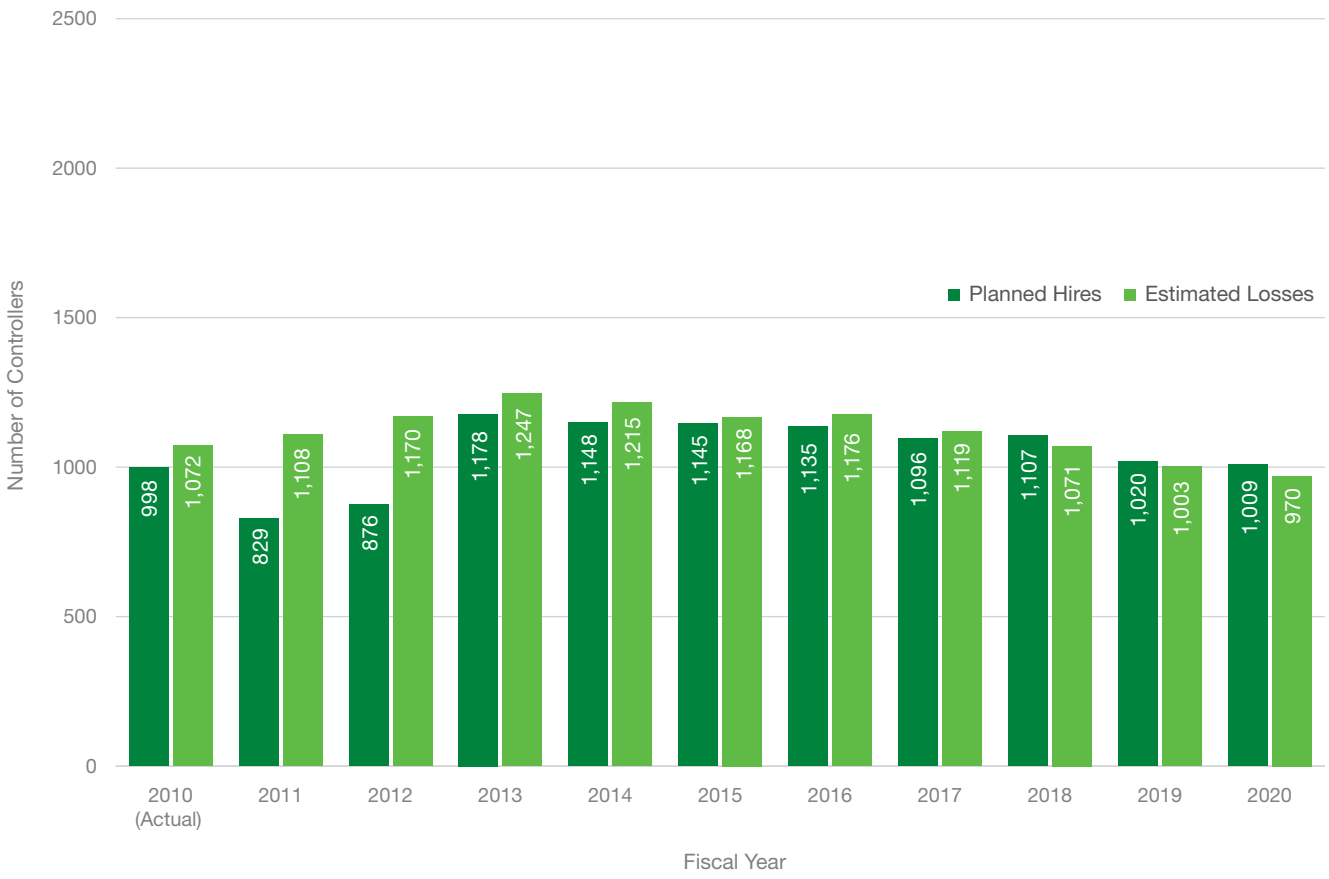
There are thousands of qualified controller candidates eager to be hired. In fact, the number of qualified candidates in FY 2010 so far exceeded the number of available positions that the FAA did not advertise a general public announcement for the entire fiscal year. Through various hiring sources, the FAA will maintain a sufficient number of applicants to achieve this hiring plan.

Controller Hiring Profile

The controller hiring profile is shown in Figure 5.1. The number of planned hires is lower than the number of expected losses in the near term due to above-plan hiring over the last few years, and the reduction in forecast traffic and attrition. The number of controllers projected to be hired through FY 2020 is 10,544.

The FAA hired 998 new controllers in FY 2010, and has hired more than 7,800 controllers over the last five years.

Figure 5.1 Controller Hiring Profile



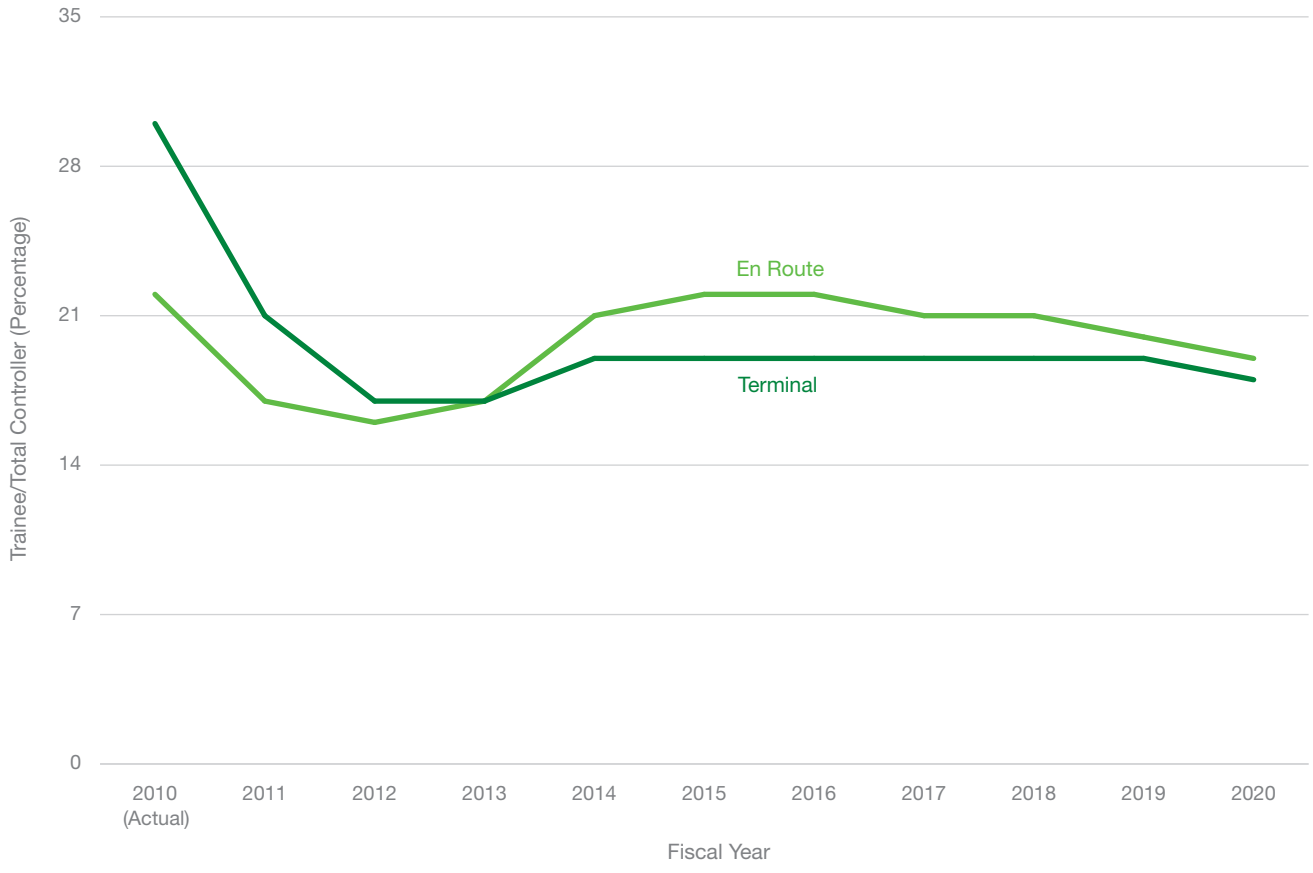
Trainee-to-Total-Controller Percentage

The hiring plan allows the FAA to maintain an appropriate number of trainees (developmental and CPC-IT) in the workforce. While the FAA strives to keep trainees below 35 percent for both terminal and en route controllers, it is not the only metric used by the agency to measure trainee progress.

Figure 5.2 shows the projected trainee to total controller percentages by year to 2020.

The percentage shown is calculated as the sum of CPC-ITs plus developmentals divided by all controllers.

Figure 5.2 Trainee-to-Total-Controller Percentage



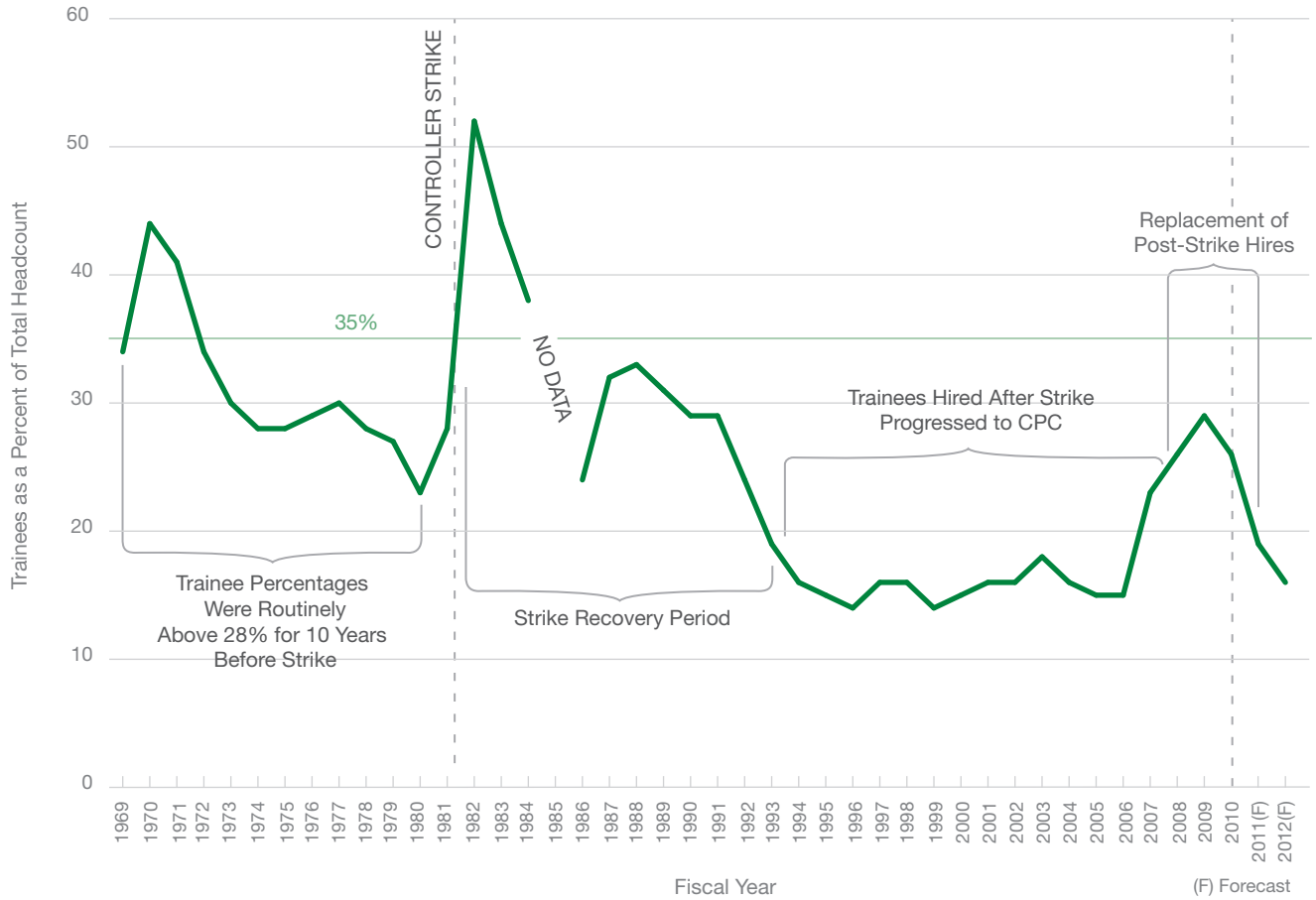
Before the 1981 strike, the FAA experienced trainee percentages ranging from 23 to 44 percent. Following the strike, through the end of the hiring wave in 1992, the trainee percentage ranged from 24 to 52 percent. When the post-strike hires became fully certified by the end of decade, the trainee percentage declined.

As the new controllers hired en masse in the early ’80s achieved full certification, the subsequent need for new hires dropped significantly from 1993 to 2006. This caused trainee percentages to reach unusually low levels. The FAA’s current hiring plans return trainee percentages to their historical averages for the near term.

By phasing in new hires as needed, the FAA will level out the significant training spikes and troughs experienced over the last 40 years. Even though there was a long-expected peak in 2009, the percentage continues to drop as thousands of trainees become certified controllers.

Figure 5.3 shows historical trainee percentages from 1969 to present.

Figure 5.3 Historical Trainee Percentage



The FAA uses many metrics (e.g., 35 percent trainee to total controllers) to manage the flow of trainees while accomplishing daily operations. Facilities meter training to coincide with a number of dynamic factors, including technology upgrades, new runway construction and recurrent proficiency training for existing CPCs. Facility training is enabled by many factors. Examples include the use of contract instructors, access to simulators, scheduled overtime, and the seasonality and complexity of operations.

In itself, the actual number of trainees does not indicate the progress of each individual in the training program or the additional utility they provide which can help to supplement other on-the-job training instruction and support operations. A key facility measure of training performance is whether trainees are completing their training within the agency's facility benchmarks. The goal ranges from one and one-half years at our lower-level terminal facilities to three years at our en route facilities.

The FAA is achieving these goals by improving training and scheduling processes through increased use of simulators and better tracking of controller training using the FAA's national training database.

The FAA will continue to closely monitor facilities to make sure trainees are progressing through each stage of training while also maintaining the safe and efficient operation of the NAS.

6 Hiring Process

Controller Hiring Sources

The FAA has three major categories of controller hiring sources.

Previous controllers: These individuals have prior FAA or Department of Defense (civilian or military) air traffic control experience.

AT-CTI students: These individuals have successfully completed an aviation-related program of study from a school under the FAA's AT-CTI program.

General public: These individuals are not required to have prior air traffic control experience and may apply for vacancies announced by the FAA.

Recruitment

The agency continues to attract and recruit high-quality applicants into the controller workforce to meet staffing requirements. Of the 998 controllers hired in FY 2010, 252 were graduates of AT-CTI schools while an additional 226 had previous air traffic control experience.

In fiscal year 2010, the FAA continued to hire a significant number of applicants from the general public. We expect this trend to reverse going forward because of the number of available applicants from our CTI and military sources.

Due to the thousands of qualified air traffic controller applicants available from previously advertised general public announcements, the agency did not offer a vacancy announcement to this pool in FY 2010. The FAA did, however, issue an open, continuous announcement for AT-CTI graduates. Announcements were also opened for retired military controllers, veterans eligible under the Veterans' Recruitment Appointment Authority, Control Tower Operators, as well as current and former civilian air traffic controllers. The number of people in the hiring pool varies during the year as the agency recruits applicants, evaluates them and draws from the pool. However, the overall goal is to maintain a pool of between 2,000 and 3,000 applicants available for consideration by selection panels at any one time. During FY 2010, the agency's recruitment and advertising activities enabled the FAA to far exceed this pool's target range. At the conclusion of FY 2010, the FAA's pool totaled over 5,000 applicants.

As an added recruitment incentive, the agency also can offer eligible developmental controllers Montgomery GI Bill education benefits. These new veterans' training initiatives will help meet controller hiring goals.

General Hiring Process

Applicants from the general public must achieve a qualifying score on the Air Traffic Selection and Training (AT-SAT) examination. The AT-SAT tests for characteristics needed to perform effectively as an air traffic controller. Some of these include numeric ability, prioritization, planning, tolerance for high intensity, decisiveness, visualization, problem solving and movement detection.

Additionally, all applicants must also meet the following requirements:

- Complete three years of progressively responsible work experience, or a full four-year course of study leading to a bachelor's degree, or an equivalent combination of work experience and college credits
- Be a U.S. citizen
- Be able to speak English clearly enough to be understood over radios, intercoms and similar communications equipment
- Be no older than age 30
- Pass stringent medical and psychological exams, an extensive security background investigation and an interview

Complete details can be found on the FAA's website at http://www.faa.gov/jobs.

7 Training

One of the primary goals of the FAA's technical training and development programs is to ensure that our air traffic controllers have all the necessary skills and behaviors to perform their jobs effectively and maintain the safety of the NAS.

The FAA has significant capabilities both at the FAA Academy and in the field to meet the demands for qualification, proficiency and skill enhancement. The FAA continues to invest in making training more effective by gearing it toward the skills needed for successful career-long development. The FAA is transforming how it trains a new generation of air traffic controllers who are accustomed to technology, innovation and self study. From upgraded training facilities to redesigned curricula and advanced simulation, the agency is building the controller workforce of the future.

The Training Process

The training process begins at the FAA Academy in Oklahoma City. Developmental controllers learn the fundamentals of air traffic control for their particular option: en route, tower or terminal radar. After successfully completing academy training, developmental controllers report to their assigned field facility to continue their training.

During the training process at field locations, developmental controllers achieve certification on each position as they move through the stages of qualification training. Developmental controllers who fail to certify may be removed from service or reassigned to a less complex facility in accordance with agency policies and directives. The ultimate goal of the training program is for the controller to achieve certification on all positions and attain CPC status.

Developmental controllers who have certified on control positions can work independently on those positions without an on-the-job training instructor monitoring them. Facilities allow developmental controllers to work under the direction of a supervisor to gain experience and to supplement staffing.

The on-the-job training process is designed to provide developmental controllers sufficient seasoning time as well as opportunities to develop their skills as they progress toward becoming CPCs.

Training Time to CPC

The FAA continues to reduce training times for terminal and en route controllers. It no longer takes from three to five years to fully train an air traffic controller. Depending on the type of facility, level (complexity) of the facility, and the average number of candidates to certify, controllers are now being trained in one and one-half to three years.

Table 7.1 shows FAA's training targets by facility type as well as actual training times for controllers who reached CPC in FY 2009 and FY 2010.

Table 7.1 Years to Certify

Facility Type	Facility Level	Training Target	FY 2009	FY 2010
En Route	All	3.0	2.62	2.62
Terminal	4-6	1.5	1.08	1.39
	7-9	2.0	1.48	1.82
	10-12	2.5	1.65	2.01

Note: Average training times have increased slightly in Terminal primarily due to the increased number of general public hires with no prior air traffic experience who require more hours to qualify for targeted positions.

Academy Training

The FAA Academy trains developmental controllers using lecture, computer-based instruction, medium-fidelity simulation and high-fidelity simulation. The academy lays the foundation for developmental controllers by teaching fundamental air traffic control procedures that are used across the country. The focus of the academy is to improve the efficiency of the training by combining proven adult learning concepts with the latest in simulation technology.

The FAA has redesigned initial courses at the FAA Academy to further increase the proficiency of students before they arrive at their assigned facilities. Most recently, the initial En Route course at the academy was redesigned to accommodate changes in automation technology. The evaluation process has been improved by now requiring students to perform five or six graded problems with a composite score for performance verification instead of one performance verification at the end of training. This gives

the students greater opportunity to demonstrate their skills, and instructors are better able to assess student progress. Initial TRACON and tower courses are undergoing a comprehensive evaluation and redesign to reflect new procedures and will also incorporate the improved evaluation process. In addition, a TRACON skills enhancement workshop was developed and implemented to improve skill sets and reduce local training time for candidates moving into higher-level facilities.

The academy has developed and distributed to the field a computer-based instruction (CBI) software application and courseware called CBI Series 23. This new application loads the courseware to the CBI platform hard drive. Now students can take CBI courses without having to locate and load the courseware at each session. Likewise, updates are no longer performed manually, but accomplished through the network. Along with this new software, the FAA Academy is working to install new computers and upgrades where needed to facilitate expansion of CBI training.

Facility Training

After graduating from the FAA Academy, developmental controllers begin facility training in the classroom, where they learn facility-specific rules and procedures. Often, these rules and procedures are practiced in simulation. Using realistic scenarios developed with varying degrees of complexity, simulation training has proven to be effective not only in reducing the time for student training, but also in allowing students to gain practical experience. As a result, students are better prepared for the transition to working live traffic.

After classroom and simulation training is complete, a developmental will begin on-the-job training on an operational position. This training is conducted exclusively by CPCs who observe and instruct developmental controllers working the control position.

Facility Training Improvements

Facility training has improved with the deployment of dedicated training computers, upgraded bandwidth and Internet Protocol (IP) connectivity, redesigned stage training courses at both en route and terminal facilities, and changes to FAA Order 3120.4.

The following activities are already underway under this multi-year, multi-faceted approach:

- Establishing a proficiency program using a competency-based approach. The competency-based approach to training development includes mapping curriculum to job task information that is aligned with instructional information such as objectives, assessments, proficiency and media.

- Installing SimFast terminal radar simulator capability. SimFast is a scenario generation tool and low-cost simulation software providing radar simulation training capability to developmentals in the field via the personal computer (PC). The first 25 terminal sites with little or no training simulation capability are beginning to receive SimFast simulation computers along with 24-inch monitors; installation of SimFast is scheduled to coincide with the new CBI upgrades at the facilities.

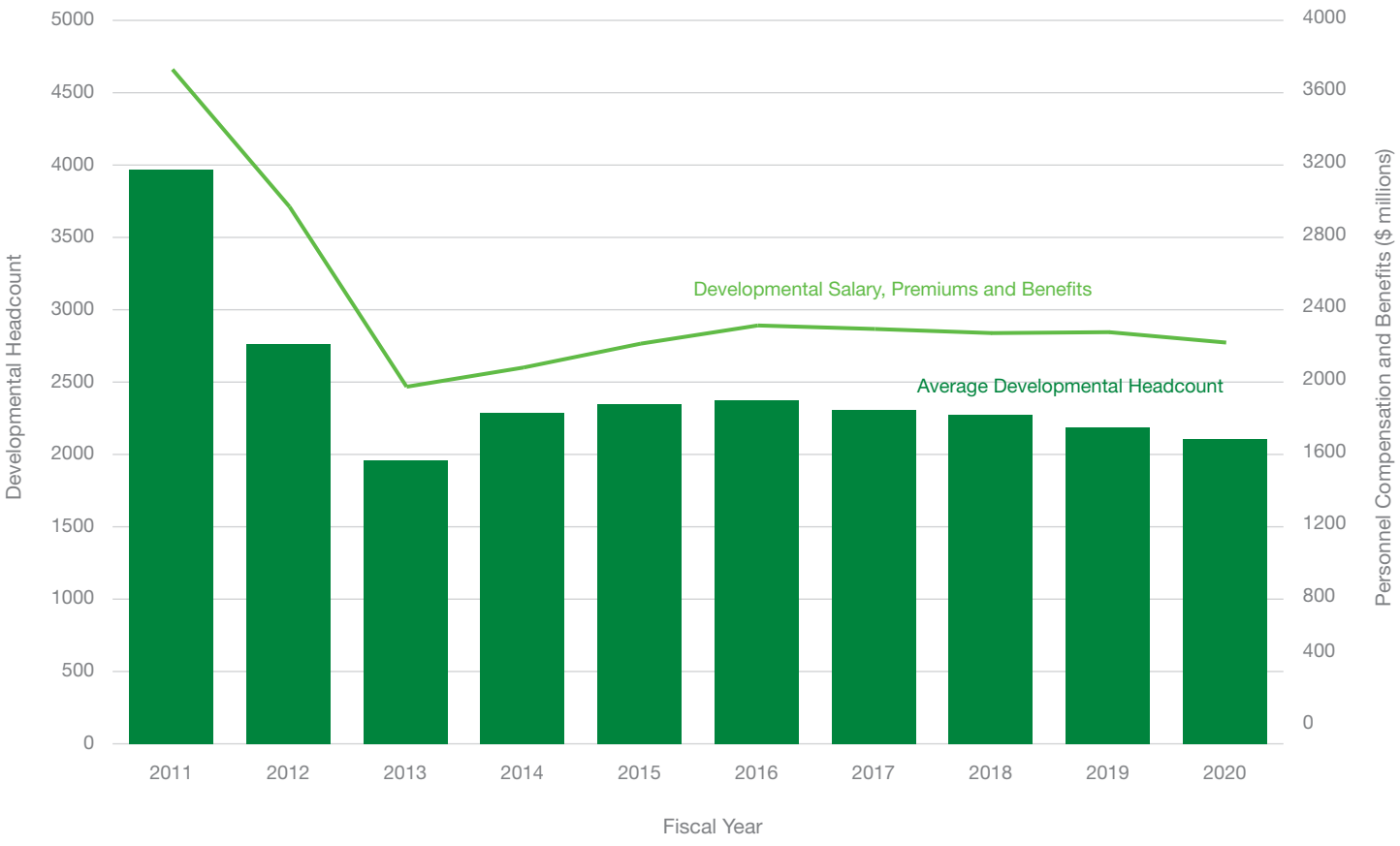
SimFast allows PC-to-PC simulations (pilot operator on one PC, trainee on the other) and does not require expensive radar equipment often unavailable at smaller facilities. By increasing the use of simulators for refresher training, controllers have the opportunity to practice seldom-used procedures and increase technical proficiency.

8 Funding Status

In addition to direct training costs, the FAA will incur salary and other costs for developmentals before they certify. The average cost of a developmental in FY 2011 is projected to be $93,823.

Figure 8.1 depicts expected annual compensation costs of developmentals, as well as the expected number of developmentals by year through 2020. As training takes one and one-half to three years, the chart depicts a rolling total of hires and costs from the current and previous years. It also incorporates the effect of the new controller contract.

Figure 8.1 Estimated Cost of Developmentals before Certification



Appendix:
2011 Facility Staffing Ranges

The following presents controller staffing ranges, by facility, for en route and terminal air traffic control facilities for FY 2011. These ranges include the number of controllers needed to perform the work. While most of the work is accomplished by CPCs, work is also being performed in facilities by CPC-ITs and position-qualified developmentals who are proficient, or checked out, in specific sectors or positions and handle workload independently. These position-qualified controllers are the focus of staffing-to-traffic efforts.

En Route Facility Controller Staffing Ranges

Total Controller Staffing Ranges include CPCs and trainees (CPC-ITs and Developmentals)

		Actual on Board as of 09/25/10				Total Controller Staffing Ranges	
ID	Facility Name	CPC	CPC-IT	Developmental	Total	Low	High
ZAB	Albuquerque ARTCC	182	2	78	262	170	208
ZAN	Anchorage ARTCC	87	1	30	118	83	102
ZAU	Chicago ARTCC	371	5	52	428	289	353
ZBW	Boston ARTCC	238	2	71	311	184	225
ZDC	Washington ARTCC	266	8	84	358	261	320
ZDV	Denver ARTCC	247	2	86	335	222	271
ZFW	Fort Worth ARTCC	272	2	55	329	212	259
ZHU	Houston ARTCC	235	7	56	298	219	268
ZID	Indianapolis ARTCC	324	0	68	392	245	299
ZJX	Jacksonville ARTCC	264	4	80	348	224	274
ZKC	Kansas City ARTCC	243	1	55	299	199	243
ZLA	Los Angeles ARTCC	239	0	45	284	226	277
ZLC	Salt Lake ARTCC	163	1	57	221	145	177
ZMA	Miami ARTCC	234	3	76	313	212	260
ZME	Memphis ARTCC	245	0	66	311	217	265
ZMP	Minneapolis ARTCC	288	0	33	321	208	254
ZNY	New York ARTCC	247	1	84	332	251	307
ZOA	Oakland ARTCC	175	9	42	226	180	220
ZOB	Cleveland ARTCC	351	1	67	419	259	316
ZSE	Seattle ARTCC	157	1	39	197	110	134
ZSU	San Juan CERAP	35	3	14	52	47	57
ZTL	Atlanta ARTCC	335	11	118	464	280	342
ZUA	Guam CERAP	16	0	6	22	15	18

Terminal Facility Controller Staffing Ranges

Total Controller Staffing Ranges include CPCs and trainees (CPC-ITs and Developmentals)

		Actual on Board as of 09/25/10				Total Controller Staffing Ranges	
ID	Facility Name	CPC	CPC-IT	Developmental	Total	Low	High
A11	Anchorage TRACON	22	3	12	37	21	26
A80	Atlanta TRACON	77	8	22	107	87	107
A90	Boston TRACON	55	5	5	65	49	60
ABE	Lehigh Valley International Airport	21	2	5	28	20	24
ABI	Abilene Regional Airport	15	0	11	26	16	19
ABQ	Albuquerque International Sunport Airport	35	1	7	43	26	32
ACK	Nantucket Memorial Airport	12	0	1	13	10	12
ACT	Waco Regional Airport	10	2	8	20	16	20
ACY	Atlantic City International Airport	22	1	7	30	22	26
ADS	Addison Airport	15	0	0	15	9	12
ADW	Andrews AFB	13	0	3	16	11	13
AFW	Fort Worth Alliance Airport	14	2	1	17	11	13
AGC	Allegheny County Airport	11	0	4	15	11	13
AGS	Augusta Regional at Bush Field Airport	15	1	5	21	14	17
ALB	Albany International Airport	20	3	9	32	23	28
ALO	Waterloo Municipal Airport	10	0	9	19	9	11
AMA	Amarillo International Airport	13	0	8	21	17	21
ANC	Ted Stevens Anchorage International Airport	20	3	6	29	22	27
APA	Centennial Airport	18	2	1	21	17	21
APC	Napa County Airport	9	0	0	9	7	8
ARB	Ann Arbor Municipal Airport	10	0	1	11	6	8
ARR	Aurora Municipal Airport	10	1	3	14	7	8
ASE	Aspen Pitkin County/Sardy Field Airport	10	1	5	16	12	14
ATL	William B. Hartsfield Atlanta International Airport	46	4	4	54	45	56
AUS	Austin-Bergstrom International Airport	27	2	14	43	33	41
AVL	Asheville Regional Airport	14	0	8	22	14	17
AVP	Wilkes-Barre/Scranton International Airport	19	0	7	26	17	21
AZO	Kalamazoo/Battle Creek International Airport	15	0	7	22	16	19
BDL	Bradley International Airport	13	0	3	16	11	13
BED	Laurence G. Hanscom Field Airport	14	0	0	14	10	13
BFI	Boeing Field/King County International Airport	20	1	4	25	21	26
BFL	Meadows Field Airport	13	1	12	26	19	23
BGM	Binghamton Regional/Edwin A. Link Field Airport	9	1	3	13	12	15

		Actual on Board as of 09/25/10				Total Controller Staffing Ranges	
ID	Facility Name	CPC	CPC-IT	Developmental	Total	Low	High
BGR	Bangor International Airport	20	0	4	24	18	23
BHM	Birmingham International Airport	25	1	5	31	23	28
BIL	Billings Logan International Airport	17	0	4	21	15	18
BIS	Bismarck Municipal Airport	14	0	1	15	13	16
BJC	Jeffco Airport	14	0	3	17	9	11
BNA	Nashville International Airport	34	1	15	50	32	39
BOI	Boise Air Terminal / Gowen Field Airport	17	4	5	26	20	24
BOS	General Edward Lawrence Logan International Airport	32	0	3	35	26	32
BPT	Southeast Texas Regional Airport	12	1	1	14	9	10
BTR	Baton Rouge Metropolitan, Ryan Field Airport	14	2	6	22	15	18
BTV	Burlington International Airport	13	2	6	21	15	18
BUF	Buffalo Niagara International Airport	22	1	11	34	24	30
BUR	Burbank-Glendale-Pasadena Airport	14	2	1	17	14	17
BWI	Baltimore-Washington Thurgood Marshall Intl Airport	23	2	4	29	20	24
C90	Chicago TRACON	72	13	18	103	80	98
CAE	Columbia Metropolitan Airport	20	3	6	29	21	25
CAK	Akron Canton Regional Airport	18	1	9	28	20	25
CCR	Buchanan Field Airport	9	0	2	11	6	8
CDW	Essex County Airport	11	0	2	13	8	10
CHA	Lovell Field Airport	15	4	4	23	16	20
CHS	Charleston AFB / International Airport	19	1	7	27	20	25
CID	Eastern Iowa Airport	17	0	2	19	13	16
CKB	Harrison / Marion Regional Airport	13	0	4	17	13	16
CLE	Cleveland Hopkins International Airport	34	7	18	59	42	51
CLT	Charlotte / Douglas International Airport	51	13	26	90	74	90
CMA	Camarillo Airport	7	2	0	9	9	11
CMH	Port Columbus International Airport	37	1	10	48	32	40
CMI	University of Illinois-Willard Airport	16	0	6	22	14	18
CNO	Chino Airport	9	0	3	12	9	10
COS	City of Colorado Springs Municipal Airport	26	0	6	32	24	29
CPR	Natrona County International Airport	8	0	5	13	11	14
CPS	St. Louis Downtown Airport	13	0	0	13	8	9
CRP	Corpus Christi International Airport	27	5	19	51	35	43
CRQ	McClellan-Palomar Airport	11	0	5	16	10	13
CRW	Yeager Airport	16	1	9	26	16	20
CSG	Columbus Metropolitan Airport	6	0	0	6	5	6
CVG	Cincinnati / Northern Kentucky International Airport	57	5	17	79	50	61

		Actual on Board as of 09/25/10				Total Controller Staffing Ranges	
ID	Facility Name	CPC	CPC-IT	Developmental	Total	Low	High
D01	Denver TRACON	37	9	21	67	67	81
D10	Dallas - Fort Worth TRACON	59	8	29	96	73	89
D21	Detroit TRACON	35	10	14	59	49	60
DAB	Daytona Beach International Airport	40	0	22	62	47	58
DAL	Dallas Love Field Airport	20	1	6	27	18	22
DAY	Ames M. Cox Dayton International Airport	33	0	5	38	23	29
DCA	Ronald Reagan Washington National Airport	24	1	4	29	22	27
DEN	Denver International Airport	36	2	8	46	35	43
DFW	Dallas/Fort Worth International Airport	59	4	3	66	47	57
DLH	Duluth International Airport	18	1	2	21	15	19
DPA	Dupage Airport	12	1	2	15	10	12
DSM	Des Moines International Airport	19	0	9	28	18	22
DTW	Detroit Metropolitan Wayne County Airport	26	6	8	40	29	36
DVT	Phoenix Deer Valley Airport	17	1	5	23	17	20
DWH	David Wayne Hooks Memorial Airport	14	1	1	16	12	14
E10	High Desert TRACON	14	2	9	25	24	30
ELM	Elmira/Corning Regional Airport	10	0	3	13	12	15
ELP	El Paso International Airport	13	0	11	24	19	23
EMT	El Monte Airport	10	0	2	12	8	10
ERI	Erie International/Tom Ridge Field Airport	11	1	8	20	16	19
EUG	Mahlon Sweet Field Airport	19	1	8	28	17	21
EVV	Evansville Regional Airport	15	0	9	24	14	17
EWR	Newark Liberty International Airport	27	7	3	37	29	36
F11	Central Florida TRACON	33	20	6	59	47	58
FAI	Fairbanks International Airport	13	1	9	23	19	23
FAR	Hector International Airport	19	0	2	21	17	20
FAT	Fresno Yosemite International Airport	17	2	14	33	22	27
FAY	Fayetteville Regional/Grannis Field Airport	17	5	7	29	20	25
FCM	Flying Cloud Airport	13	1	0	14	7	9
FFZ	Falcon Field Airport	13	1	0	14	12	14
FLL	Fort Lauderdale/Hollywood International Airport	27	0	3	30	20	24
FLO	Florence Regional Airport	11	1	7	19	13	15
FNT	Bishop International Airport	17	1	5	23	14	17
FPR	St. Lucie County International Airport	13	0	1	14	9	11
FRG	Republic Airport	11	0	5	16	12	14
FSD	Joe Foss Field Airport	14	0	3	17	13	16
FSM	Fort Smith Regional Airport	24	0	7	31	19	23

		Actual on Board as of 09/25/10				Total Controller Staffing Ranges	
ID	Facility Name	CPC	CPC-IT	Developmental	Total	Low	High
FTW	Fort Worth Meacham International Airport	13	2	5	20	11	13
FWA	Fort Wayne International Airport	19	2	4	25	16	20
FXE	Fort Lauderdale Executive Airport	15	0	1	16	11	14
GCN	Grand Canyon National Park Airport	6	0	3	9	10	12
GEG	Spokane International Airport	24	1	7	32	22	27
GFK	Grand Forks International Airport	16	1	4	21	14	18
GGG	East Texas Regional Airport	14	3	4	21	15	18
GPT	Gulfport Biloxi International Airport	12	1	7	20	16	19
GRB	Austic Straubel International Airport	21	2	1	24	17	20
GRR	Gerald R. Ford International Airport	24	1	2	27	17	21
GSO	Piedmont Triad International Airport	25	1	8	34	27	34
GSP	Greenville-Spartanburg International Airport	19	0	3	22	18	21
GTF	Great Falls International Airport	11	0	5	16	16	19
HCF	Honolulu Control Facility CERAP	69	5	25	99	73	90
HEF	Manassas Regional/Harry P Davis Field Airport	15	0	1	16	9	12
HIO	Portland Hillsboro Airport	11	0	5	16	11	13
HLN	Helena Regional Airport	6	2	4	12	8	10
HOU	William P. Hobby Airport	21	3	0	24	17	21
HPN	Westchester County Airport	14	1	5	20	14	17
HSV	Huntsville International - Carl T. Jones Field Airport	15	3	5	23	16	20
HTS	Tri-State/Milton J. Ferguson Field Airport	12	0	8	20	17	21
HUF	Terre Haute International-Hulman Field Airport	12	2	8	22	15	18
HWD	Hayward Executive Airport	9	1	2	12	7	9
I90	Houston TRACON	56	24	17	97	81	100
IAD	Washington Dulles International Airport	33	3	3	39	28	35
IAH	George Bush Intercontinental Airport/Houston Airport	37	0	2	39	32	40
ICT	Wichita Midcontinent Airport	31	0	9	40	31	38
ILG	New Castle County Airport	13	0	1	14	9	11
ILM	Wilmington International Airport	11	3	7	21	15	18
IND	Indianapolis International Airport	38	5	14	57	37	46
ISP	Long Island MacArthur Airport	16	1	0	17	12	15
ITO	Hilo International Airport	10	0	5	15	14	18
JAN	Jackson International Airport	15	2	5	22	15	19
JAX	Jacksonville International Airport	32	2	12	46	39	48
JFK	John F. Kennedy International Airport	26	5	8	39	29	36
JNU	Juneau International Airport	8	0	2	10	9	11
K90	Cape TRACON	19	0	5	24	22	27

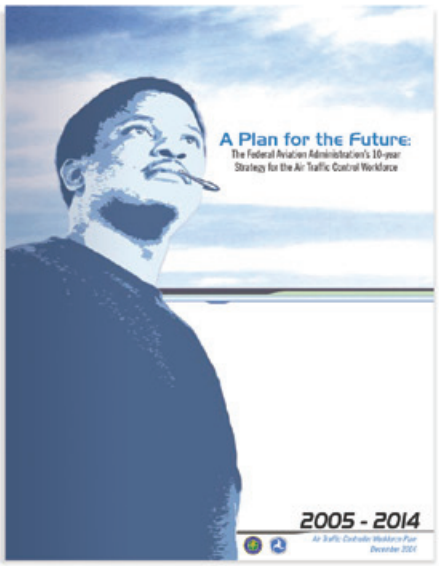
ID	Facility Name	Actual on Board as of 09/25/10				Total Controller Staffing Ranges	
		CPC	CPC-IT	Developmental	Total	Low	High
L30	Las Vegas TRACON	35	14	5	54	45	55
LAF	Purdue University Airport	8	0	4	12	7	8
LAN	Capital City Airport	17	2	6	25	19	23
LAS	McCarran International Airport	31	6	7	44	32	39
LAX	Los Angeles International Airport	38	11	4	53	38	46
LBB	Lubbock International Airport	12	1	13	26	16	19
LCH	Lake Charles Regional Airport	6	3	11	20	13	16
LEX	Blue Grass Airport	19	0	7	26	20	25
LFT	Lafayette Regional Airport	13	1	12	26	17	20
LGA	LaGuardia Airport	21	5	10	36	26	32
LGB	Long Beach / Daugherty Field Airport	19	4	2	25	18	22
LIT	Adams Field Airport	26	1	7	34	24	29
LNK	Lincoln Municipal Airport	15	0	1	16	8	9
LOU	Bowman Field Airport	9	0	3	12	7	9
LVK	Livermore Municipal Airport	7	1	0	8	7	8
M03	Memphis TRACON	30	1	4	35	37	46
M98	Minneapolis TRACON	48	12	2	62	48	58
MAF	Midland International Airport	16	3	11	30	20	25
MBS	MBS International Airport	13	0	8	21	14	18
MCI	Kansas City International Airport	29	2	12	43	30	37
MCO	Orlando International Airport	29	1	0	30	23	28
MDT	Harrisburg International Airport	18	3	6	27	23	28
MDW	Chicago Midway Airport	27	0	8	35	18	23
MEM	Memphis International Airport	32	0	3	35	27	34
MFD	Mansfield Lahm Regional Airport	12	1	3	16	13	16
MGM	Montgomery Regional (Dannelly Field) Airport	16	2	5	23	16	19
MHT	Manchester Airport	15	0	2	17	10	12
MIA	Miami International Airport	59	14	31	104	75	92
MIC	Crystal Airport	14	0	3	17	7	9
MKC	Charles B. Wheeler Downtown Airport	12	0	1	13	10	12
MKE	General Mitchell International Airport	36	3	18	57	40	49
MKG	Muskegon County Airport	16	1	3	20	15	18
MLI	Quad City International Airport	13	0	3	16	14	17
MLU	Monroe Regional Airport	6	1	9	16	12	14
MMU	Morristown Municipal Airport	11	1	1	13	9	12
MOB	Mobile Regional Airport	19	3	6	28	20	25
MRI	Merrill Field Airport	11	0	2	13	9	11

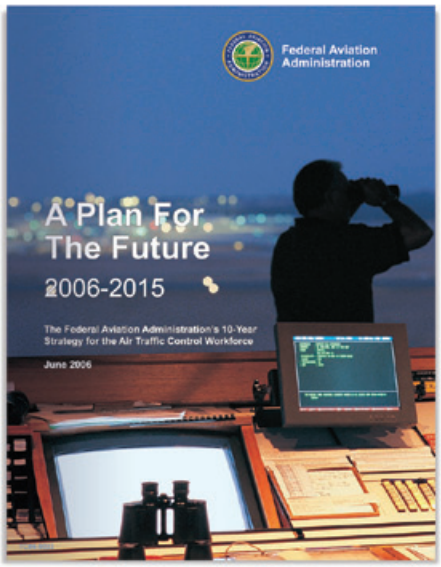
		Actual on Board as of 09/25/10				Total Controller Staffing Ranges	
ID	Facility Name	CPC	CPC-IT	Developmental	Total	Low	High
MRY	Monterey Peninsula Airport	8	0	2	10	7	8
MSN	Dane County Regional - Truax Field Airport	20	2	3	25	17	21
MSP	Minneapolis St. Paul Intl / Wold-Chamberlain Airport	37	6	0	43	27	33
MSY	Louis Armstrong New Orleans International Airport	30	0	8	38	28	34
MWH	Grant County International Airport	9	0	10	19	14	17
MYF	Montgomery Field Airport	8	1	5	14	10	13
MYR	Myrtle Beach International Airport	17	0	10	27	17	21
N90	New York TRACON	162	18	39	219	175	214
NCT	Northern California TRACON	132	20	47	199	145	178
NEW	Lakefront Airport	7	0	4	11	5	7
NMM	Meridian NAS/ McCain Field Airport	11	0	7	18	12	15
OAK	Metropolitan Oakland International Airport	24	3	0	27	23	28
OGG	Kahului Airport	11	0	2	13	9	12
OKC	Will Rogers World Airport	29	1	2	32	29	35
OMA	Eppley Airfield Airport	12	0	4	16	10	12
ONT	Ontario International Airport	15	1	7	23	11	14
ORD	Chicago O'Hare International Airport	47	18	10	75	54	66
ORF	Norfolk International Airport	28	2	14	44	33	41
ORL	Executive Airport	15	0	1	16	9	11
P31	Pensacola TRACON	28	0	8	36	28	35
P50	Phoenix TRACON	52	5	7	64	54	66
P80	Portland TRACON	20	6	6	32	22	27
PAE	Snohomish County (Paine Field) Airport	11	0	2	13	8	10
PAO	Palo Alto Airport of Santa Clara County Airport	9	0	3	12	8	9
PBI	Palm Beach International Airport	30	2	8	40	34	41
PCT	Potomac TRACON	127	5	54	186	142	173
PDK	De Kalb Peachtree Airport	19	0	0	19	11	14
PDX	Portland International Airport	19	1	4	24	17	21
PHF	Newport News / Williamsburg International Airport	15	1	0	16	9	11
PHL	Philadelphia International Airport	58	8	24	90	74	90
PHX	Phoenix Sky Harbor International Airport	33	0	3	36	28	34
PIA	Greater Peoria Regional Airport	12	0	5	17	15	18
PIE	St. Petersburg-Clearwater International Airport	15	0	3	18	9	11
PIT	Pittsburgh International Airport	49	0	6	55	34	41
PNE	Northeast Philadelphia Airport	10	0	3	13	8	10
PNS	Pensacola Regional Airport	9	1	4	14	9	11
POC	Brackett Field Airport	12	1	2	15	8	10

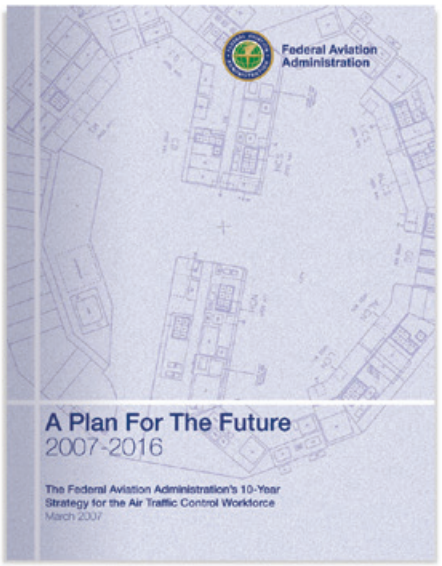
		Actual on Board as of 09/25/10				Total Controller Staffing Ranges	
ID	Facility Name	CPC	CPC-IT	Developmental	Total	Low	High
POU	Dutchess County Airport	8	0	3	11	8	10
PRC	Ernest A. Love Field Airport	11	0	3	14	12	14
PSC	Tri-Cities Airport	16	1	2	19	12	14
PSP	Palm Springs International Airport	8	2	1	11	8	10
PTK	Oakland County International Airport	11	1	6	18	10	13
PUB	Pueblo Memorial Airport	10	0	7	17	14	17
PVD	Theodore Francis Green State Airport	24	4	8	36	24	29
PWK	Palwaukee Municipal Airport	16	1	3	20	8	10
PWM	Portland International Jetport Airport	14	0	6	20	18	23
R90	Omaha TRACON	21	1	1	23	17	21
RDG	Reading Regional / Carl A. Spaatz Field Airport	12	1	4	17	14	17
RDU	Raleigh Durham International Airport	37	5	12	54	37	45
RFD	Greater Rockford Airport	21	2	4	27	17	20
RHV	Reid Hillview of Santa Clara County Airport	7	0	2	9	7	8
RIC	Richmond International Airport	16	0	4	20	11	14
RNO*	Reno / Tahoe International Airport	10	6	8	24	13	16
ROA	Roanoke Regional / Woodrum Field Airport	19	0	11	30	22	26
ROC	Greater Rochester International Airport	25	0	4	29	20	24
ROW	Roswell Industrial Air Center Airport	11	0	5	16	13	15
RST	Rochester International Airport	14	0	2	16	13	16
RSW	Southwest Florida International Airport	20	2	10	32	23	28
RVS	Richard Lloyd Jones Jr. Airport	15	1	2	18	13	16
S46	Seattle TRACON	31	8	21	60	41	50
S56	Salt Lake City TRACON	33	7	8	48	37	46
SAN	San Diego International-Lindbergh Field Airport	19	1	3	23	15	18
SAT	San Antonio International Airport	30	6	21	57	39	48
SAV	Savannah / Hilton Head International Airport	21	1	4	26	20	24
SBA	Santa Barbara Municipal Airport	18	2	11	31	21	25
SBN	South Bend Regional Airport	13	2	10	25	17	21
SCK	Stockton Metropolitan Airport	8	0	2	10	6	8
SCT	Southern California TRACON	180	42	44	266	184	225
SDF	Louisville International-Standiford Field Airport	29	2	11	42	37	46
SDL	Scottsdale Airport	11	0	1	12	9	11
SEA	Seattle-Tacoma International Airport	30	0	3	33	21	25
SEE	Gillespie Field Airport	11	0	6	17	11	13
SFB	Orlando Sanford Airport	19	0	2	21	14	18
SFO	San Francisco International Airport	24	6	4	34	26	32

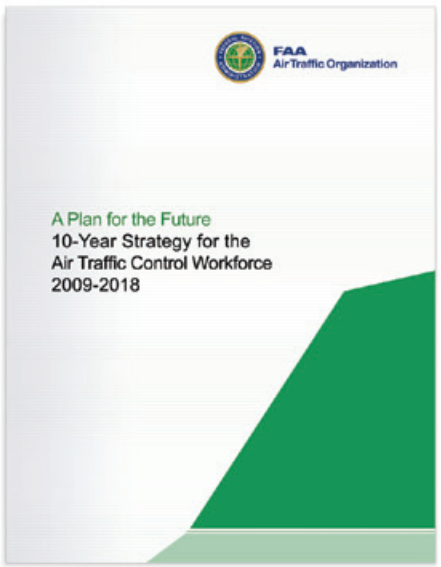
*RNO TRACON services were transferred to NCT 10/26/10

		Actual on Board as of 09/25/10				Total Controller Staffing Ranges	
ID	Facility Name	CPC	CPC-IT	Developmental	Total	Low	High
SGF	Springfield Branson Regional Airport	29	2	1	32	23	28
SHV	Shreveport Regional Airport	11	1	13	25	20	24
SJC	Norman Y. Mineta San Jose International Airport	15	2	0	17	9	11
SJU	Luis Munoz Marin International Airport	15	0	2	17	14	18
SLC	Salt Lake City International Airport	29	1	3	33	26	32
SMF	Sacramento International Airport	11	1	1	13	10	12
SMO	Santa Monica Municipal Airport	9	1	2	12	8	10
SNA	John Wayne Airport-Orange County Airport	21	4	5	30	18	23
SPI	Capital Airport	12	0	6	18	11	13
SRQ	Sarasota/Bradenton International Airport	14	0	1	15	9	11
STL	Lambert-St. Louis International Airport	21	0	2	23	16	20
STP	St. Paul Downtown Holman Field Airport	16	0	0	16	7	9
STS	Sonoma County Airport	8	0	1	9	7	8
STT	Cyril E. King Airport	8	0	1	9	8	9
SUS	Spirit of St. Louis Airport	14	0	1	15	8	10
SUX	Sioux Gateway/Col. Bud Day Field Airport	6	1	8	15	10	12
SYR	Syracuse Hancock International Airport	16	1	10	27	23	28
T75	St. Louis TRACON	46	0	0	46	26	32
TEB	Teterboro Airport	15	4	2	21	17	20
TLH	Tallahassee Regional Airport	21	0	3	24	17	20
TMB	Kendall-Tamiami Executive Airport	12	0	1	13	12	14
TOA	Zamperini Field Airport	9	0	4	13	8	10
TOL	Toledo Express Airport	20	0	4	24	18	22
TPA	Tampa International Airport	45	6	24	75	47	57
TRI	Tri-City Regional TN/VA Airport	15	0	6	21	14	17
TUL	Tulsa International Airport	24	5	11	40	25	30
TUS	Tucson International Airport	18	1	3	22	13	16
TVC	Cherry Capital Airport	6	1	1	8	7	9
TWF	Joslin Field/Magic Valley Regional Airport	7	0	4	11	7	9
TYS	McGhee Tyson Airport	23	2	7	32	23	28
U90	Tucson TRACON	16	2	6	24	18	22
VGT	North Las Vegas Airport	12	4	3	19	11	14
VNY	Van Nuys Airport	17	2	4	23	20	24
VRB	Vero Beach Municipal Airport	9	1	2	12	9	11
Y90	Yankee TRACON	25	2	3	30	20	24
YIP	Willow Run Airport	10	3	4	17	10	13
YNG	Youngstown-Warren Regional Airport	16	1	4	21	15	19









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